ENGINEERING NEWS-RECORD

Aviation Engineers in France surface fighter plane strips with asphalt impregnated burlap.

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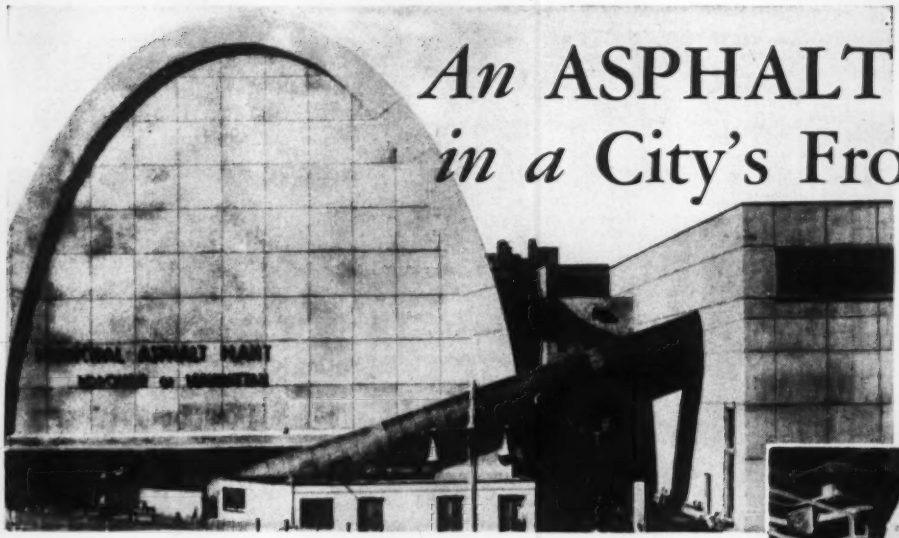
An ASPHALT PLANT *in a* City's Front Yard



Exterior of the plant, facing East River Drive

by: AUBREY SMITH
Industrial Engineering Division
General Electric Company

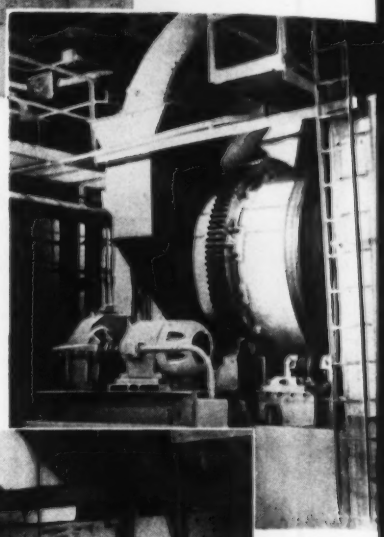
WHAT is probably the most modern asphalt plant now in use is located in New York City, in the residential and park district along East River Drive. Because of its convenient location, the old plant site was retained when a modern plant became necessary. The new buildings were designed for architectural suitability; the processes were thoroughly electrified—to eliminate soot, dust, and other objectionable features. The result is an attractive, clean, hygienic project powered, controlled, and process-heated electrically. It has capacity for a daily output of about 800 tons of high-grade street surfacing material. Provision has been made in foundations, etc. for additional units to increase the capacity to about 1100 tons.

General Electric's contribution was typical of the engineering service of our Company. District sales engineers, in co-operation with the General Office application engineers, worked with municipal officials through the contractor, to plan the best utilization of electric equipment. All the machinery—designed and installed by F. D. Cummer & Son Co., Cleveland—was G-E equipped.

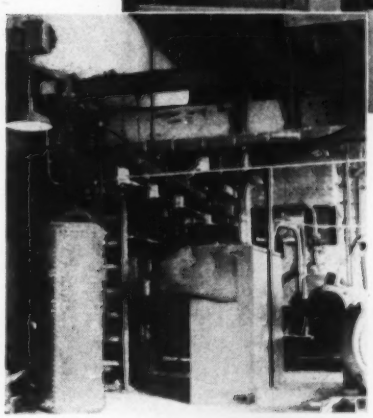
Totally enclosed G-E fan-cooled motors drive machinery in the following processes:

1. Sand and stone, received by barge, are transferred in an electrically driven tunnel conveyor through an inclined tube to storage bins; then, again in conveyors to the mixing plant.
2. The liquid asphaltic cement, fuel oil, and limestone dust are all electrically pumped from barge to storage.
3. Bucket elevators move materials from mixers to reclaiming dryers, and then into the vibrating screens.
4. Under automatic, electric control, dry materials are mixed with the hot liquid asphalt for predetermined periods, and the finished product is then dumped into waiting trucks.

Throughout this process, wherever liquid asphalt is stored or must be pumped through long pipes to the mixers, G-E Calrod heaters are used to keep heated and flowing by holding the temperature 300 F. Use of electric heaters exclusively has ma extra piping unnecessary, avoided the need for ste heat and its attendant equipment, and reduced ma tenance expense. A total of 620 kw is used for proc heating.



G-E 40-hp mo operating a 60- two-fire dryer



View of mixer d during construct Piping and surge t are heated by C Calrod heaters, a controlled with CR29 thermostats

G-E engineers are quickly available to meet u construction men and make plans that will inclu the most modern electric equipment in keeping u the far-sighted projects of municipal officials. Gener Electric Company, Schenectady 5, N. Y.

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The Week In Engineering and Construction

GINEERING NEWS-RECORD • NOVEMBER 9, 1944 • VOLUME 133 • NUMBER 19

Plans prepared for disposal of federally-aided housing

Organization of NHA disposal machinery gets emphasis, as removal of controls is sought to set stage for huge private housing program.

lthough still giving its principal attion to completion of a war housing ram costing over six billion dolthe National Housing Agency is dly setting up the machinery to ose of about 800,000 publicly fied dwelling units built under its ction. At the same time, NHA ofls in cooperation with the War Proion Board and other federal cies, are completing plans for removal of existing construction rols to permit private builders to construction of the 12,600,000 nonhomes seen necessary by the ing agency in the first ten postwar rs.

Nearly two million units

o date nearly 1,700,000 war housing s have been completed under NHA ervision. Nearly 60 percent of the s were built as privately financed k carried out with the assistance of Federal Housing Administration, ch is the branch of NHA insuring s made by private institutions for construction of new homes and the rovement of existing structures. The aining units were built under the ction of the Federal Public Hous- Authority, NHA's branch respons- for all war housing constructed public funds, excluding housing ted on Army and Navy reservations. t of the federal money spent was vided under the Lanham Act, and to nearly $2.3 billion of work has done with federal allotments, e private financing will bring the war housing program to between nd seven billion dollars.

et to be completed with NHA aid about 107,000 units, and a few thou- more are expected to be placed er construction later. When the en- war housing program is complete, a total of nearly 1,900,000 units will have been built under federal supervision.

Some needed housing now is being provided by moving several thousand existing dwelling units from areas where an excess of housing has developed due to cutbacks and cancellations of war orders to locations where severe housing shortages still exist.

Big disposal job faces NHA

The major problem now facing the NHA is disposal of 800,000 publicly financed dwelling units. As the accompanying table shows, the total cost of these developments was over $1.7 billion. Four classes of structures are involved: permanent and demountable structures, temporary housing, converted houses, and stop-gap housing, which is primarily trailers.

In setting up machinery for the disposal of this housing, NHA has established a disposition branch in FPHA with C. Russell Cravens in charge.

Included in the 800,000 publicly financed units are 62,000 permanent units that will revert to low rent-housing once the war is over.

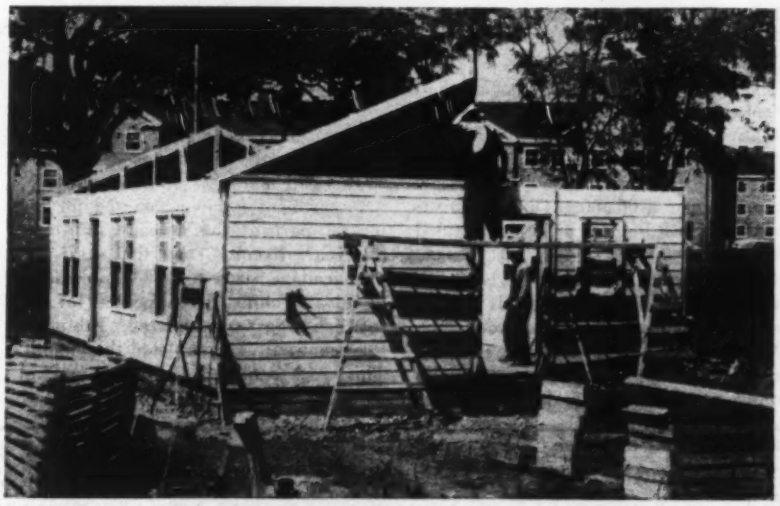
Two methods are to be followed in disposing of the remaining permanent dwellings, including the demountables. The preferred method will be to sell the individual homes to the present tenants at a price reached by appraisal methods rather than by auction. This method is expected to offer a means of avoiding inflationary selling prices; NHA is only interested in reclaiming its original investment and not in making a profit, which might be possible in some areas.

At many projects the individual structures can not be sold because the homes are heated by central plants or for other reasons. In these cases an effort will be made to dispose of the entire project as a unit.

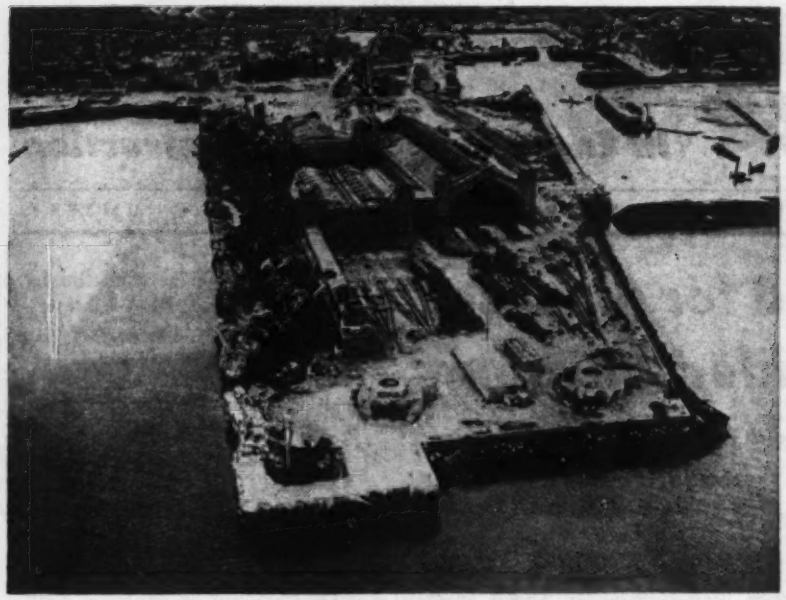
Full investment recovered

A good example of disposal by the second method was the recent sale of the 980-unit Stuart Gardens project at Newport News, Va., to a group of real

(*Continued on page 7*)



Experiments to determine the best methods of salvaging the temporary housing have included the dismantling in panels of a two-story structure at Wilmington, Del., and re-use of materials in single-story utility buildings of this type.



U. S. Signal Corps, from Wide World Photos

Cherbourg's facilities partly restored

This recent air view of the great "Quai de France" at Cherburg reveals that the Germans did do such a complete job of wrecking the wharf for deep-draft vessels, that our forces have not attempted to restore it to usefulness. Only the outer end of this wharf, which is the one at the left of the quay, now appears to be in service. Most of the forward end of the quay and the right side is simply a rubble fill in shallow water topped by a low wall and so cannot be used as a wharf. (For details, see ENR July 6, vol. p. 6.) It is understood that berthing facilities for deep draft vessels have been provided elsewhere in the port area. This quay appears to be used primarily for open storage, which is at a premium in the congested port region.

Arkansas to pay $406,500 on Mississippi bridge

The highway commission of Arkansas recently signed a formal agreement with the Public Roads Administration by which Arkansas will contribute $667,000 toward construction of the new $8,233,000 Mississippi River bridge at Memphis.

Highway Director W. W. Mitchell said the state has received a concession from the Tennessee Highway Department by which Arkansas will be reimbursed to the extent of $260,500, leaving a net of $406,500. The agreement with the PRA also must be ratified by Tennessee.

Construction of piers will begin as soon as priorities for materials can be obtained and a contract awarded, Mr. Mitchell said. The four-lane 3.7 mi. span will supplement and eventually replace the present Harahan Bridge.

Pennsylvania improved 4,400 mi. of road in 1944

Pennsylvania's secretary of highways, John U. Shroyer, reports that more than 4,400 mi. of road in the state were improved during the first nine months of 1944 at a cost of more than $15,000,000.

"This mileage," Mr. Shroyer said, "covering the contract and department force improvement programs, and divided among the 67 counties of the state, has proceeded at an excellent rate of progress despite wartime restrictions on equipment, materials and manpower."

Department forces accounted for the largest part of the mileage improved this year. Records show that 4,126 mi. of macadam roads received application of oil and chips, or 95 percent of the season's program completed. The other 5 percent will be completed this month. This work required 15,500,000 gal. of tar and asphalt.

Rebuilding Port Chicago at cost of $20,000,000

A $20,000,000 reconstruction and e pansion program now under way at t Naval Magazine, Port Chicago, Cali scene last July of a disastrous explosi is expected to be completed early ne spring, it was announced recently Twelfth Naval District headquarters San Francisco.

Included in the program is a $15,00 000 authorization for a 5,500-acre inla storage area, 3½ mi. from the co munity of Port Chicago, where a perm nent civilian village, roads, railw services, administration building, sho and ammunition storage dumps are ing installed. Contracts for the wo were awarded to MacDonald & Kah Inc., and Barrett & Hilp, both w headquarters in San Francisco.

The new construction calls for t building of barricaded railroad sidin reinforced by high concrete retaini walls that will force any explosive w wards, thus protecting personnel wo ing in the adjacent area, it was report

Two highway overpasses over part the 40 mi. of railroads being construct are being built by Earl Heppel, S Jose, Calif., contractor. Railroad cla fication yards and tracks are under co tract to Frederickson and Watson Oakland, Calif.

Loading piers and facilities are bei improved on the old Port Chicago s at a cost of about $5,000,000, it w revealed. Contracts for one pier alrea in operation and another nearing co pletion are held jointly by the Mac Construction Co. of Oakland and t Case Construction Co. of San Ped Calif. Barrett & Hilp also is doing wo in the area where barracks and bar caded segregation buildings for m munition storage are being erected.

* * *

Port Hueneme is made full-fledged naval base

Port Hueneme, West Coast port embarkation for the Seabees and th equipment, has been commissioned full-fledged naval base, elevating it equal footing with San Pedro, S Diego and San Francisco, the Nav three other great establishments California.

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Highway safety measures obligation of engineers responsible for design

Ohio Traffic Engineering Conference also told that doubling of road capacity in 20 years will be necessary.

n estimated expenditure of approxi-ely $700,000,000 would be neces- ultimately to bring Ohio's high- system up to modern-day stand- M. D. Shaffer, chief engineer of tion and right-of-way, Ohio Depart- t of Highways, reported to the Ohio ic Engineering Conference, held in mbus, Oct. 25-26, at which about engineers, safety directors, and way officials were present.

haffer explained that a recent y revealed approximately $400,- 000 could readily be justified as a t of the general postwar public s construction program. Approxi- ely $200,000 should be expended as as possible for urgently needed truction projects.

Designing safety into highways is obligation for the engineers re- sible for highway design," he said. t education and enforcement of the an element will be necessary for ty designs to be of public benefit." rof. Theodore M. Matson, director the Bureau of Street Traffic Re- ch, Yale University, expressed his ion that doubling of roadway ca- ities will be necessary within 20 s, basing his claims on the enormous lopment in highway transportation ing prewar years. "Engineering l must be employed in the develop- t and application of intelligent traf- restrictions which are based on the sured value of traffic requirements performance characteristics, such traffic volumes, speed, origin, desti- ion, and terminal and parking ts," he declared.

arl J. Reeder, Chicago, chief traffic ineer of the National Safety Coun- said that pedestrian protection t be embodied in planning and de- ing new highway construction fol- ing the war, this phase of the pro- n demanding as much attention as plans for vehicular traffic.

idney J. Williams, Chicago, general nager of the National Safety Coun- asserted that the necessary post- highway rebuilding program gives hway departments the opportunity build safety into our streets and ways." Saying that speed would be of the biggest postwar traffic prob- s, he declared, "It is far more ef- ive, far cheaper in the long run, to e a highway as nearly foolproof as possible than to continue, generation after generation, the painful process of education and enforcement to avoid hazards which should never have been created."

. . .

New zoning plan voted for New York City

On Nov. 1, the City Planning Commission of New York City voted to amend the city's basic zoning laws by imposing additional restrictions on the height, bulk and area of new buildings, with the avowed purpose of improving realty values and preventing blighted areas by increasing the amount of open space, light and air about future construction.

Sponsored by Park Commissioner Robert Moses, the amendment was approved, with only Public Works Commissioner Irving V. A. Huie dissenting. It now goes to the Board of Estimate and will automatically become law after thirty days unless it is rejected by three-quarters of the board.

This amendment is the first substantial change in the zoning regulations of New York City since 1916.

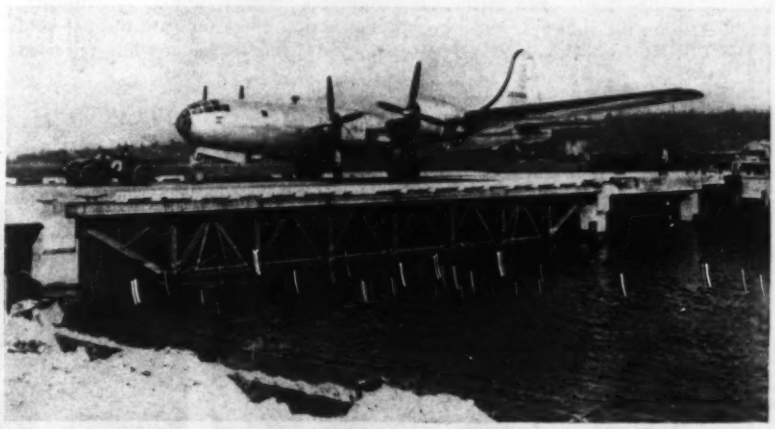
Present laws divide the city into height districts according to limitations on building heights with respect to the widths of the streets upon which the structures front, and into area districts according to permissible coverage of land. The proposed zoning regulations would, in effect, change existing districts into the next more restrictive ones.

In dissenting, Commissioner Huie contended that the chief weakness of the new proposal lay in the fact that it is too drastic in the highly assessed business areas while at the same time it is not sufficiently realistic in other areas of the city, particularly in undeveloped sections. He submitted an alternate proposal, based on bulk zoning, which was not acceptable to the other members.

. . .

Sewer break washes out Hobart, Ind., bridge

The Third Street bridge (60-ft. span) at Hobart, Ind., carrying U. S. Highway 6 over part of Lake George, which furnishes the city with water, collapsed recently and broke the water main leading to the downtown section. The bridge collapse was caused by the foundation of one approach being washed away by a broken 12-in. sewer.



Floatable bridge serves as taxiway for B-29's

From the Boeing Aircraft Co. plant, located on the opposite side of a navigable stream from the take-off runway, superfortresses must pass over a recently completed steel and timber floating bridge of unusual design, which was described in detail in the Jan. 13, 1944 issue or ENR, p. 47.

Wider than it is long, the structure has a span of 85 ft., with a width of 110 ft., and rests on concrete abutments at each end, to which it is secured by removable locking pins. The bridge is mounted on 12 steel buoyancy tanks, each 5½ ft. in diameter and 34 ft. long. These cylinders are normally filled with water, but in floating the bridge aside to permit shipping to pass, they are made buoyant by forcing the water out with compressed air from the aircraft factory's compressor station. The bridge has to be shifted only a short distance to clear the channel. The structure was designed by The Austin Co.

Asphalt Impregnated Burlap Used to Surface Fighter Strips in France

U. S. Ninth Air Force Engineers in France are using a new type of material for surfacing runways on advanced fighter fields. Generally known as PBS (prefabricated bituminous surfacing) it consists of a single strip of 36- to 40-in. wide burlap, or "Hessian" cloth, which is impregnated with asphalt to a thickness of about ☆ in. The material is supplied in 100-yd. rolls, varying in weight from 300 to 400 lb. Variation in dimension and weight is due to the fact that different firms are engaged in the manufacture of the material; average PBS will run about 3.5 lb. per sq. yd.

The treated burlap is laid with a specially designed machine, commonly called a "stamplicker" (Fig. 1), which is pulled by a standard U. S. Army truck at a rate of 2½ to 4 mph. The strip is fed into the machine from a roll on the back end of the truck. It passes over a large roller revolving in a reservoir filled with a solvent, which is composed of a 50–50 solution of gasoline and RC-3 cutback asphalt. This process softens the underside of the material so that it will stick to the adjacent strip on the runway.

The PBS is laid with a 50 percent overlap, providing a double thickness over the entire landing strip. The average laying speed is 210 sq.ft. per man hour, which compares with about 125 sq.ft. per man hour for installing pierced steel plank.

Can be laid faster than steel plank

Reports from the field indicate that a company of 121 men with officer supervision can lay a runway 3,600 by 120 ft. in 17 hr., using six machines and three refilling trucks. At an average laying speed of 125 sq. ft. per man hour for pierced steel plank the laying time for a 3,600 by 120 ft. runway would be 28.5 hr. for a company of 121 men. This comparison is made merely for the time factor involved in preparing a temporary advance fighter field. The pierced steel plank surfacing would be used on a field of a more permanent nature or for heavier wheel loads.

The surface of the PBS has about the same non-skid properties as bituminous pavements. The seams along the adjoining strips are generally sealed with RC-3 or some other tar as shown in the right photograph of Fig. 2. However, if it is desired to increase the non-skid property, the seams are left unsealed and a cutback is applied, followed by an application of sand over the surface at the rate of 3 lb. per sq. yd. Wobbly wheeled, pneumatic-tired rollers are used to imbed the sand into the Hessian cloth mat. The excess sand is removed with a rotary sweeper. RC-3 applied at 120 deg. F. has proved very satisfactory as a cutback in preparing the PBS for the sand, as has diesel oil sprayed on at normal temperatures. The field may be placed in service as soon as the excess sand is removed.

As is true for other types of wearing surfaces for runways, the success of cloth-covered landing strip depends upon a good subbase. This new type of surfacing material provides a dust-proof, waterproof finish. Service records so far indicate excellent results for use on fighter landing strips for wheel loads up to 15,000 lb., provided a smooth, well-compacted base is available. The material, however, is not suitable for use on bomber landing fields.

Engineers of the Ninth Air Force under command of Brig. Gen. James Newman had built or restored more than 100 airfields in northern France between D-day, June 6, and Oct. 12, an

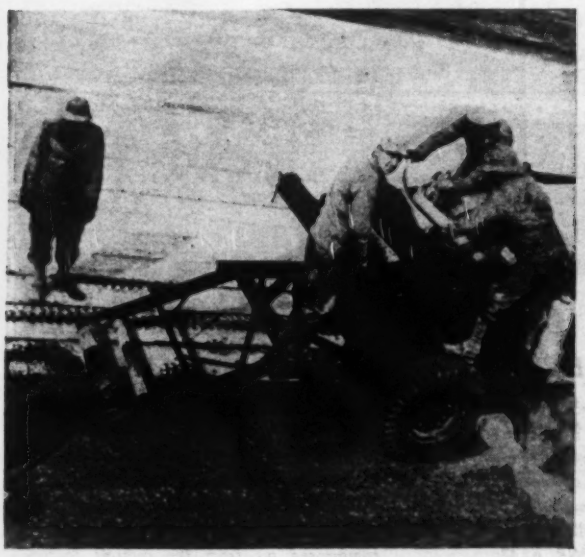
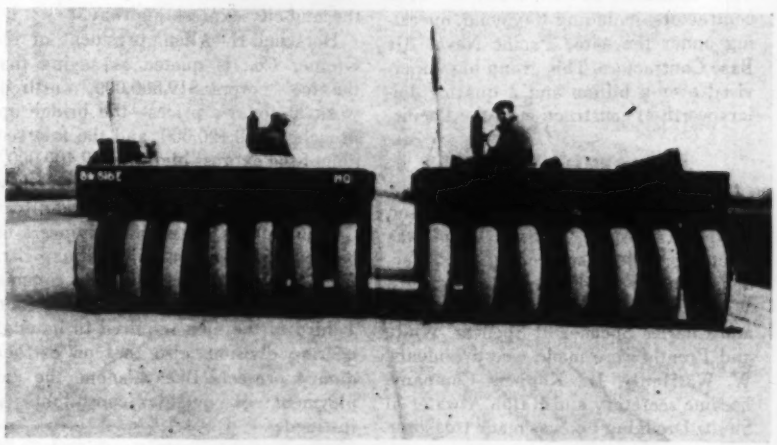


Fig. 1. The "stamplicker" machine is being threaded with a new strip of impregnated cloth. Experienced operators can rethread the machine in one minute or less. The larger roller revolves in a reservoir filled with a 50-50 solution of gasoline and RC-3 cutback asphalt. As the strip passes over the roller the bituminous material on the underside is softened so that it will adhere to the adjacent strip when laid by the machine as shown at right.

g. 2. Splicing the ends of two rolls together. For proper adhesion, the upper surface of one end and bottom surface of e other are swabbed with the solvent material. Right: Sealing the seams with bitumen. Note that the strips are laid with 50 percent overlap, thus providing a double thickness.

ilt eight fields in southern France, as ported on Oct. 18 by Col. George ayo, Army Air Forces Air Engineer. ol. E. R. Heiberg is chief of the Air ngineer Branch, Headquarters Army ir Forces.

g. 3. Where a surface of increased e-skid character is desired, the mat sprayed with RC-3 at 120 deg. F., or th diesel oil at normal temperatures, ther of which cuts back the surface t does not expose the fabric. Sand then spread on the mat at about 3 per sq.yd.



. 4. After the impregnated cloth rface has been sprayed and sanded, wobble-wheel, pneumatic-tired roller used to imbed the sand into the mat. y excess sand is removed with a tary sweeper, the runway then being dy for traffic.

Moles annual awards to Crowe and McMenimen

Frank Crowe, dam builder, and Wm. V. McMenimen, foundation expert and executive, will receive the 1944 Moles Awards for outstanding achievement in heavy construction. E. A. Prentis chairman of the award committee announced the selection last week at a meeting of the Moles, an organization of men engaged in heavy construction in and around New York. The awards will be presented in February.

Frank Crowe

Frank Crowe is identified with major dam projects rather than by service with a particular contractor's organization. Arrowrock, Guernsey, Boulder, Parker and Shasta dams, each notable for unique methods employed for construction, have been built under his supervision. A tribute to Crowe's personal ability is the fact that after estimating, bidding and missing the Shasta Dam contract for another organization he became general superintendent for Pacific Constructors, Inc., the successful bidders and built the structure for them.

Bill McMenimen started professional work as rodman on the Hudson-Manhattan tubes under the Hudson river in 1904 and four years later was general superintendent. He has been associated with Raymond Concrete Pile Co. since 1911, except for five years with the Dock Contractor Co. For the past few years Mr. McMenimen has been chairman of the board of eight contractors, including Raymond, operating under the name Pacific Naval Air Base Contractors. This group has supervised over a billion and a quarter dollars worth of construction in the Pacific.

Blackstone Studios
Wm. V. McMenimen

Johnson elected president

At the same meeting Arthur Johnson of the Arthur A. Johnson Corp. was elected president, succeeding Jack Macdonald of Walsh-Kaiser Co., Inc. Al. Warwick of Eugene F. Warwick, Inc. and Charles Spencer of Spencer, White and Prentis were made vice presidents. W. W. Hanly, Jr., Koppers Company, became secretary and Ralph Atwater of Shultz Dredging Co. was made treasurer.

Valley development work discussed in Ontario

A conference on river valley development was held in London, Ont., last month by the Ontario Department of Planning and Development. Under Director George B. Langford the conference brought together about 250 engineers, municipal officials, farmers and foresters. They discussed the seriousness of soil erosion, stream pollution, and other interference with renewable natural resources. Bryce C. Browning described what has been achieved in rehabilitating the Muskingum watershed, and pictures were shown of this and other U. S. conservation projects. Work of the Grand River Conservation Commission, which has already built the Shand Dam on the Grand River of southwestern Ontario, was described by E. F. Roberts. Plans for similar work in the adjacent Thames valley were discussed, and a report on the necessary conservancy measures for the Ganaraska River valley in eastern Ontario was presented.

Resolutions were passed calling on the province to set up a conservation authority and to initiate a groundwater survey of southern Ontario in conjunction with the Geological Survey of Canada, as it is believed that groundwater levels are falling.

• • •

Engineers' $741,000 fee is studied in Baltimore

A committee consisting of Dean S. S. Steinberg, of the University of Maryland school of engineering; Nathan L. Smith, chief engineer of Baltimore; C. E. Swain, district engineer of the federal Public Roads Administration; and W. Watters Pagon, has been appointed by Governor O'Conor of Maryland to review the J. E. Greiner Co.'s proposed fee of $741,000 for preparing engineers' plans for approaches to the Baltimore harbor bridge and the first section of the mid-city express highway.

Herschel H. Allen, president of the Greiner Co., is quoted as saying that the fee "covers $19,500,000, worth of work at today's prices—the bridge approaches, $10,100,000, and the first section of the express highway, $9,400,000."

The Greiner Co. has already done much work for the Maryland State Road Commission as consulting engineers on particular jobs. In explanation, Ezra B. Whitman, chairman of the commission, said that the commission is short a third of the men required in its engineering division, also that on extraordinary projects like this one the employment of outside consultants is justified.

Two personnel changes in P. R. Administration

Raymond Archibald, principal st... tural engineer of the Public Road A... ministration of the Federal Works Agency, has been appointed chief of the bridge division. He has been with the Public Roads Administration since 1935 except for a short period with J. E. Greiner Co. He has been in charge of designs and construction of bridges on the Alas... Highway. He is a native of Alba... Ore., and was graduated in civil e... gineering at Oregon State College 1919. Before joining the Public Roa... Administration, he was engaged ... bridge work for the highway depa... ments of Oregon, Missouri, Arkans... Maryland, and Idaho.

Raymond Archib...

Mr. Archibald succeeds Oscar ... Grover, who has reached statutory retirement age and has retired. Mr. Grover has been appointed special consultant on bridge and structural problems and will continue to serve the organization in planning postwar construction. His services with the fe... eral government began in 1914 a... he has been in charge of bridge desi... throughout the entire period of fe... eral-aid road construction.

P. R. Admin. ph...
Oscar L. Grov...

• • •

Engineers and inspector... wanted in Detroit

Work vital to war projects in t... River Rouge, Trenton and Lonyo A... nue, districts of Detroit, Mich., ma... be delayed seriously unless civilian c... struction engineers and workers a... obtained at once. An urgent plea h... been made by Col. Allison Miller, di... trict engineer of the Detroit Engine... Office, for specialists in the follow... categories: Project engineers, office e... gineers, chief inspectors, concrete ... spectors, grading inspectors, and buil... ing inspectors.

Applications are to be made at 4... Federal Building, Detroit, Mich.

Disposal plans ready for federal war housing

(Continued from page 1)

...e men for $3,615,000. Negotiations ...ired but a short time, and the sale ...e permitted the federal government ...etrieve its entire investment in the ...elopment, including overhead.

...vage of temporary units studied

...t present NHA is doing considerable experimental work to determine the salvage value of the 400,500 temporary housing units and to find worthwhile uses for these structures, which must be eliminated as housing within ... years after the war ends, in accordance with the Lanham Act. For example, one of the two-story, 12-family buildings at the Millside Dwellings project in Wilmington, Del., was torn down in panels and these sections used to construct four 20 x 40-ft. utility buildings.

This work indicates that the temporary structures may be used successfully for constructing utility buildings, garages, bunkhouses for construction workers, mess halls, sanitary facilities and emergency clinics and shelters, but that in most cases the money recovered from this method of salvage will scarcely repay the cost of demolition and restoration.

NHA sees big postwar program

Looking to the future, NHA officials estimate that 12,600,000 non-farm homes and apartment units will be required in the first postwar decade. This total includes: 4,100,000 units to fill needs caused by the increase in families and migration from the farm; 1,400,000 for married servicemen's households; 700,000 for couples now living together but wanting separate homes, and 100,000 to bring vacancies up to five percent of the total housing supply of 1935. In addition, 6,100,000 new units are considered necessary to replace substandard dwellings and those destroyed during the war by fire, flood and other causes.

Restrictions to be relaxed

In keeping with the federal government's present plan to permit domestic construction to start as soon as possible, NHA, in cooperation with other agencies, has already obtained the release of some materials. Recently by joint action NHA and WPB relaxed controls sufficiently to permit materials to be used by private firms for remodeling apartment houses and other existing dwellings in those areas where an extreme housing shortage exists.

Early in October a procedure was authorized whereby discharged veterans of the present war could obtain immediate priorities if they wish to build or remodel a home. Restrictions were further relaxed Oct. 17 when the WPB removed several controls on the homes being built by private firms in those cities where housing is inadequate for war workers, hardship cases, and returning veterans. In these areas, homes in the $6,000 range may be built so long as certain materials are not used, such as lumber two or more inches in thickness. The maximum board foot allowance of dimension lumber per square foot of floor area was retained, but the restriction on permissible floor area was removed, as was the requirement that in certain areas the exterior walls be built of laid-up masonry, clay or concrete products. Controls as to the size of the hot water tanks, plumbing facilities, and electrical outlets were also relaxed. Further relaxation to permit the construction of homes in the $6,500 to $8,000 class in congested areas was made on Oct. 27.

In short, until both manpower and building supplies become more plentiful, the federal agencies will continue to control the size and distribution of housing construction. But by the time labor and materials are abundant, a huge housing boom should be in full swing, with this type of construction providing a large source of employment. The boom is expected to include the resumption of construction of about 18,000 units started before the war as low-cost municipal projects but now suspended.

Type and cost of war housing which must be sold.

Accommodations and structure	Number of units	Total estimated development cost
...manent and demountable		
Permanent family dwelling[1]	126,200	$563,015,000
Demountable family dwelling	77,900	323,720,000
Permanent dormitory	2,900	7,858,000
Sub-total	207,000	894,593,000
...versions by FPHA		
Family dwellings	1,100	2,650,000
Dormitory	4,100	2,036,000
Sub-total	5,200	4,686,000
...porary		
Family dwellings[2]	247,800	675,214,000
Dormitory	152,700	115,276,000
Sub-total	400,500	790,490,000
...p gap		
Family trailers (gov. owned)	31,500	52,573,000
Dormitory trailers[3]	1,700	1,145,000
Parks for private trailers	26,200	18,053,000
Portable shelter units	5,900	11,598,000
Sub-total	65,300	83,369,000
TOTAL	678,000	$1,773,138,000

[1] Excludes 62,600 units financed under U. S. Housing Act and its amendments and 4,900 financed under ...w York State Housing Act.
[2] Excludes 48,700 units converted by HOLC by lease to owner.
[3] Trailers privately owned and will be retained by tenants, but parks will be eliminated.

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Boulder Dam repairs to cost $3,000,000

Repair and improvement work on Boulder Dam totaling $3,000,000 to halt erosion which has threatened spillway portals was approved recently by the Los Angeles Area Production Urgency Committee of the War Production Board, according to Louis M. Dreves, chairman.

The project, conceived some time ago, but postponed because of manpower shortages, will be completed in about a year by workers recently released by the Basic Magnesium plants at Las Vegas, Nev. Work will be done by the Bureau of Reclamation.

Erosion endangering canyon walls has made necessary the altering of spillway channels and the improving of tunnels, it was reported.

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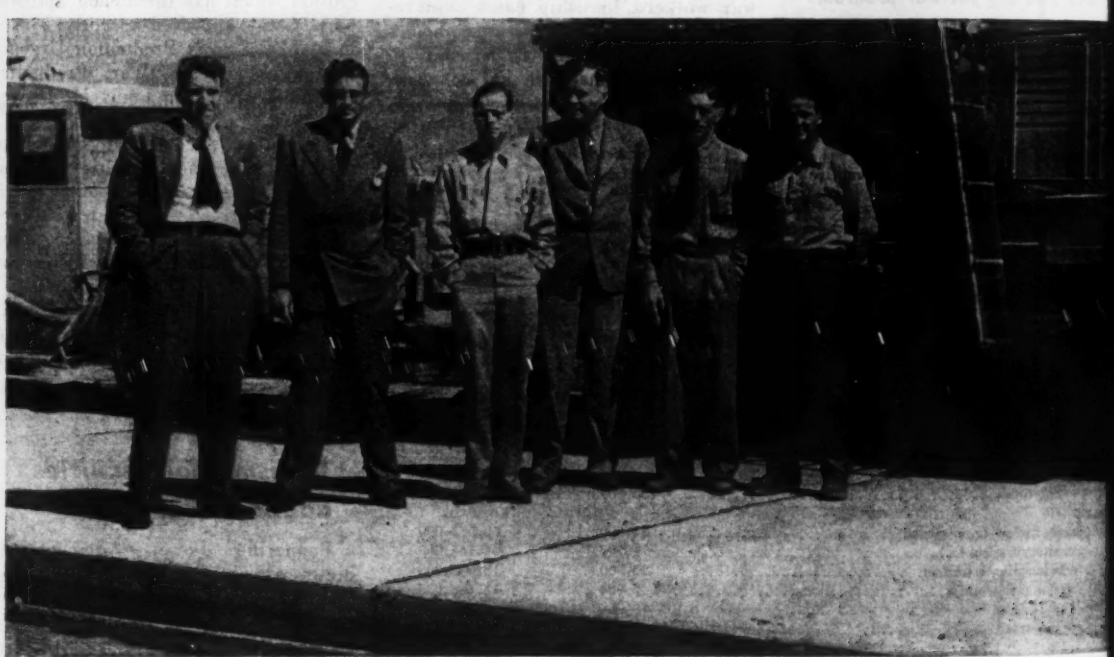
Transmission facilities added at Bonneville

Bonneville Power Administration crews are at work on construction camps on the Columbia River in central Washington preparatory to construction of a high-voltage switching station near Rock Island, Wash., and a 51-mile, 230,000-volt steel tower line from Rock Island to Vernita, Wash. Construction is to be completed by the middle of next year.

MEN AT WORK

RALPH A. SMITH, resident engineer of the Pere Marquette Railway (center) confers with MERRITT E. JOHNSON, engineer-office manager (left) and R. L. EVANS, superintendent of construction, both of the Jutton-Kelly Company, Dearborn, Mich., contractors on replacing a large washed-out earth fill to carry two mainline tracks of the Pere Marquette Railway along the eastern shore of Lake Michigan. The project will be described in the Nov. 16 issue.

Engineers who visit Grand Coulee Dam be sure to meet J. O. HOLLAND, assi to the regional information director, w a "walking encyclopedia" of facts on project, having been on the site since work began.



At left is RHODES RULE, consulting engineer, and J. F. L. BATE, field engineer, Consolidated Vultee Aircraft Corp., in charge of run construction, 12 to 14-in. thick concrete, at Lindbergh Field, San Diego, Calif. Next is PHIL HELSEY, concrete technician of the Sa Emery Co. The three at the right are top men for Casson and Ball, contractors, L. G. LYNCH, project manager; L. G. KRULL, gen superintendent; R. L. HAPGOOD, concrete superintendent. Construction features of the project will be described in the Nov. 16 issue.

OL. RALPH A. TUDOR and J. I. TOOKER have their backs turned to a large section of steel (hatch opening in center background) that they watched as it was lifted from a sub- ged wreck at Portland, Ore. Colonel Tudor, district engineer, U. S. Army Engineers, has der his direction some salvage operations for supervision of which Captain Tooker has n loaned by the U. S. Navy. Tooker was senior salvage officer on the "Normandie" raising New York harbor.

Because of the extensive highway work now being prepared for that area, E. L. SCHMIDT, district engineer at Pittsburgh for the Pennsylvania State Highway Department is one of the busiest engineers in that city.

H. WIETERS (left), director of public health engineering and industrial hygiene, Iowa e Department of Health, confers with R. C. HANLON, district health engineer.

As superintendent for McCloskey & Co., Philadelphia, the general contractor, EDWARD EVANS is supervising repair of the dome of the Pennsylvania capitol building at Harrisburg.

News of the Engineering Schools

Case School of Applied Science, Cleveland, Ohio, has plans for a $3,000,000 to $4,000,000 expansion program to be carried out in part upon a 7-acre plot owned by the city and adjacent to the present campus. Frank Quail, president of the board of trustees, says that the plan calls for eleven new buildings, and President William E. Wickenden states that these new buildings would double Case's teaching scope, permit more postgraduate work, facilitate the flow of student traffic, and provide better living quarters for students.

The school's expansion plans have been approved by the city planning committee of the Cleveland city council. A million dollars is available now to start the work.

Case is offering a distinct plan of instruction for men leaving the armed forces and others who show evidence of their capacity for college work. Requirements for students entering Case directly from secondary schools will remain unchanged, but the former will receive special consideration regardless of previous training

"For these older men," says Dean R. R. Slaymaker, "we propose to substitute wider experience and native intelligence for the customary academic credit rating."

Engineering curricula problems during the postwar period were considered at Raleigh, N. C., Oct. 20 by representatives of southern engineering schools, and proposals were made for the enhancement of engineering as a profession. R. B. Rice of the North Carolina State College school of engineering, declared that "Engineering schools should promote legislation aimed at obtaining surplus government war properties for college laboratories."

The Louisiana State University and Agricultural and Mechanical College has added to its undergraduate civil engineering curricula courses in photogrammetry and soil mechanics. Complete laboratories are available.

The board of regents of the University of Michigan recently accepted gifts totaling $60,000 for the college of engineering. Of this amount, $10,000 for an engineering scholarship fund came from the estate of Dr. Mortimer E. Cooley, former head of the college. The engineering department has done more than $2,000,000 worth of military research work since Pearl Harbor.

A special course in surveying and geodesy has been started at the University of Toronto for surveyors from the British West Indies. The course is intended to qualify candidates for the British colonial survey service and to improve that work in the West Indies. Twelve men will be trained, the first five of whom have already begun their studies. They come from British Guiana, British Honduras, Jamaica, and Trinidad.

The department of civil engineering of Washington University, St Louis, Mo., has acquired several new pieces of equipment to be used in testing materials, including three Baldwin-Southwark machines of 60,000, 120,000, and 300,000 lb. capacity. Other new equipment includes apparatus for soil testing. Additional equipment is to be acquired as soon as the priority situation permits. Plans are being drawn for an addition to the engineering laboratory to provide further facilities for all types of material testing.

North Carolina State College has requested the State Advisory Budget Commission for an increase of $511,000 in its appropriations for the next biennium to purchase equipment not available during the war, and for engineering research. The college has plans for two new engineering buildings and an addition to the present civil engineering building.

Governor J. M. Broughton has been elected president of the North Carolina Engineering Foundation, Inc., chartered recently to promote engineering education and research at the college. The foundation plans a campaign to raise funds to improve the engineering school facilities.

Studying public sanitation in this country so they will be better equipped to serve Mexico, a group of Mexican federal sanitation department workers are being afforded practical experience to supplement textbook study at the University of Michigan's college of engineering.

Four of the men, as postgraduate scholarship students, recently were taken on a tour of Michigan cities to observe operating methods of garbage disposal and sewage treatment plants and waterworks. They are: Jorge Garcia Gomez, Jesus Diaz Barriga, Francisco Javier Jimenez, and Francisco Luis Castro.

A complete revision, modernization and extension of the college training program in civil engineering is indicated in the light of postwar construction and rehabilitation needs, says Allan R. Cullimore, president of the Newark, N. J., College of Engineering. The college is drawing up plans to broaden and modernize the subjects to be taught students entering the civil engineering department.

Mr. Cullimore says, "Factors motivating the change in the curriculum are many, but the war itself with its widespread destruction abroad and its curtailment of private and public works at home is the major influence. The scientific and technological advancements forced on engineering by the war must be studied and adapted to serve as well in peace."

President Edmund E. Day of Cornell University announced Oct. 28 that, after the war, five years instead of four would be required for a bachelor's degree in any branch of engineering at Cornell.

S. C. Hollister, dean of the College of Engineering, explained that, besides acquiring technical competence, "the engineer of the future must be familiar with and competent in finance and corporate organization, labor relations and other economic and social problems.

"Engineering educators have wrestled with the problem of covering so wide a field in the allotted time but have been reluctant to depart from a 4-yr. undergraduate program. However, Cornell is now taking that step."

Illinois Institute of Technology, Chicago, has been given the U. S. Army Ordnance Department distinguished service award. It was presented Oct. 1 by Brig. Gen. Donald Armstrong, commandant of the Army Industrial College and head of the Chicago Ordnance District. In accepting, President Henry T. Heald of the institute, revealed that more than 50,000 persons have received training and gone into war work from the school since Pearl Harbor.

Services rendered the Ordnance Department by the Institute include (1) establishment of an ordnance engineering laboratory; (2) training of a large number of persons for ordnance inspection and security; and (3) conducting numerous research projects for ordnance design and production.

teel fabricators elect oddington president

e annual convention of the Ameri- Institute of Steel Construction, in Atlantic City, N. J., Oct. 31 to 2, was characterized by extensive ssions of the structural steel fabri- g industry's problems of change- from war to peace, including such ects as contract termination, re- ch, new markets and expanded engi- ing staffs. In addition, several s and movie films were devoted to industry's notable war accomplish- ts in the building of factories, , barges, military bridges, and r specialized structures.

he only technical paper on the pro- m, but one which was regarded as ly important, was presented by on Male, research engineer, U. S. l Corp., and was devoted to the nical and commercial aspects of t-gage structural steel. Framing ems using such material began to introduced about 1930, and during war light-gage prefabricated steel dings were shipped to every theater peration. On the expectation that t-gage steel construction will con- e to increase in popularity in the war period, the A.I.S.C. has two dard specifications for the material date from 1941, and is now en- d in developing a design specifica- applicable to building construc-

aul Coddington, of the Lakeside dge & Steel Co., Milwaukee, Wis., elected president of the A.I.S.C. to ceed Clyde G. Conley, of the Mt. non Bridge Co. Other officers ted included T. R. Mullen, Lehigh ctural Steel Co., Allentown, Pa., vice president; P. F. Gillespie, son-Pacific Co., San Francisco, if., second vice president; and J. G. yock, Belmont Iron Works, Phila- hia, Pa., treasurer.

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WPB modifies ruling n building supplies

n keeping with the improved deliv- picture of construction supplies, war production board Oct. 31, ified Schedule A of the Controlled erials Plan to permit builders to a number of construction materials merly prohibited or restricted. lders gaining WPB authorization a construction project by use of m GA-1456 may now use more ex- ively steel plate, aluminum, metal , hardware, plumbing and heating s and some products made from l sheet or strip, or copper.

In addition to the work authorized on Form GA-1456, which is used by the WPB to authorize most commercial, industrial and agriculture construction controlled by the basic construction order L-41, the amended schedule applies to certain utility construction regulated by WPB Order U-1. However, it does not apply to house construction, which is controlled by the National Housing Agency and is subject to the limited preference rating Order P-55-c. Restrictions on the use of lumber have also been simplified. Builders no longer need obtain lumber from local woodlots or by resawing larger timbers or those of a size less critical. Copies of the revised Schedule A are now available at all local WPB offices.

It should be noted that the WPB plans to continue to control construction by requiring government authorization to begin work and that modification of Schedule A does not mean that a builder can at once start a project even if he can obtain the necessary materials. Washington officials do not see spot authorization for construction in the near future. However, the WPB points out that its policy is to permit as soon as possible normal use of construction supplies wherever this use does not impede more urgent war work.

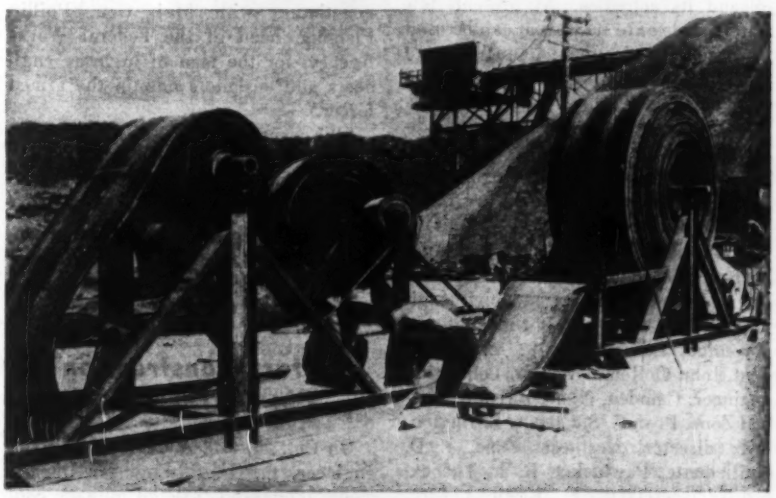
Second tube to open for N. Y.-N. J. tunnel

The second tube of the Lincoln Tunnel under the Hudson, connecting midtown Manhattan with Weehawken, N. J., is scheduled for opening Feb. 1, after considerable delay in its completion. Tunneling was started early in 1937 and the 7,400-ft. tube was holed through May 2, 1938.

The two-lane first tube was opened to two-way traffic in December, 1937, but use at that time did not justify provision for four lanes of traffic. Work on the second tube was stopped shortly after the rough tunneling was completed.

Traffic through the one tube has steadily increased to 4,500,000 vehicles in 1943 and an estimated 5,500,000 vehicles for 1944. Completion of the second tube was undertaken early in 1941 but work has been delayed by shortages of materials, recently alleviated by cooperation of the War Production Board.

New Jersey bound traffic will use the two lanes of the second tube, entering through recently built approaches at 40th St. and Tenth Ave. Manhattan-bound traffic will have use of the two lanes now carrying two-way traffic. The toll plaza for both lanes will be at the New Jersey end of the tubes.



Longest belt conveyor is being dismantled

The world's longest conveyor belt, which in four years of operation by H. J. Kaiser's Columbia Construction Co. carried 12,000,000 tons of sand and rock more than nine miles from the Kutras tracts at Redding, Calif., to the Shasta Dam, is being dismantled.

Since completion of the huge conveyor system in March, 1940, it has transported sand, rock and gravel for mixing 6,000,000 cu. yd. of concrete for the dam, second largest masonry structure in the world, being built by the United States Bureau of Reclamation as part of the California Central Valley project.

The belting, 36 in. wide with a capacity of 1,100 tons per hour, contained 1,000 bales of cotton and 1,000,000 lb. of rubber. Company officials said it would be resold for use elsewhere.

The conveyor was in 26 separate sections, each motivated by a 200-hp. motor. Travel time for sand and gravel between the gravel pits and the dam was clocked at 1 hr. 40 min., a speed of 550 ft. per min.

Examiners act on engineers-in-training

Establishment of administrative procedures under which state license boards can issue certificates to "engineers-in-training" was recommended to those boards by the National Council of State Boards of Engineering Examiners at its 24th annual meeting held in Lexington, Ky., Oct. 30-31. Such an arrangement is looked upon as simpler than attempting to amend state license laws to insert a provision authorizing the examination of young engineers before they have attained the practical experience required for a license.

An administrative arrangement of this kind is in effect in New York State, where 109 certificates have been issued to young graduates since the change went into effect in June, 1943.

The matter of writing a definition of professional engineering that will meet the findings of the Supreme Court of Illinois in its decision holding the recently passed license law in that state unconstitutional was referred to the Committee on Uniform Laws and Procedures.

Funds needed

A considerable part of the time of the council was given over to discussion of ways for obtaining funds to support and expand its activities. At present, few state boards have funds that can be used to support the National Council due to the fact that receipts from registration fees go directly into the state treasury.

Despite adverse transportation conditions, 37 of the 43 states having license laws were represented at the meeting. About 78,000 engineers now are registered in this country.

The following officers for the ensuing year were elected: president, Professor H. T. Person, head of the civil engineering division of the University of Wyoming, Laramie, Wyo.; vice president, John C. Remington, Jr., consulting engineer, Camden, N. J.; director, Central Zone, Prof. C. S. Crouse, Lexington, Ky.; director, Northeast Zone, J. D. Guillemette, Pawtucket, R. I. The executive secretary, T. Keith Legare, Columbia, S. C., was reelected.

The next annual meeting of the National Council will be held in St. Louis.

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Canadian engineers To aid veterans

A committee to be known as the Canadian Committee for Student Guidance in Science and Engineering has been set up jointly by the Engineering Institute of Canada, the Chemical Institute of Canada, and the Canadian Institute of Mining and Metallurgy. This action was taken at the request of the Wartime Bureau of Technical Personnel and with the endorsement of the Minister of Labor. The new committee is to carry forward and amplify the work begun in 1939 by the E. I. C. Committee on the Training and Welfare of Young Engineers, the expanded work to include counselling services for men discharged from the armed forces.

The work of the original E. I. C. committee closely parallels that inaugurated in this country under the auspices of the Engineers Council for Professional Development, of which the Engineering Institute now is a member. That committee already has engineer-counsellors in all the major cities of the dominion, and has issued brochures in English and French for the guidance of high school students, copies of which are in practically all the high schools in Canada. Some university alumni organizations also have been active in this counseling work.

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Loan of Army engineers sought for Ohio roads

Because engineers and draftsmen are badly needed to aid in the planning of Ohio's postwar highway program, State Highway Director H. G. Sours is negotiating with Maj. Gen. Phillip Fleming, head of the Federal Works Agency, for the loan of highway engineers and designers now in the armed forces.

"We want in no way to detract from the war effort, but there are engineer officers now in the United States without important assignments who are vitally needed by state highway departments—design, not construction engineers," Sours asserted.

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Military construction ended at Jacksonville

On Oct. 20, Col. A. B. Jones, district engineer, the U. S. Engineer Department, announced that the military construction program in Jacksonville, Fla., begun late in 1940, has been completed with the exception of a few minor items, which are being delegated to the Savannah District Office to be combined with military construction programs in that area of the South Atlantic Division.

This concentration of responsibility is in keeping with the policy of the U. S. Engineer Department to consolidate work of similar nature, wherever possible, for economy and expeditious action.

Large new Naval depo on San Joaquin River

Development of Rough and R Island in the San Joaquin River, C into a permanent postwar naval hol and reconsignment depot is underwa was announced recently by Tw Naval District headquarters in Francisco. Twaits, Morrison, Knu and Gerwick of San Francisco hold $10,395,189 construction contract.

Work on the recently acquired isl an annex to the U. S. Naval Su Depot at Oakland, Calif., includes stallation of 22 mi. of railroad t 11 mi. of paved roads, 3,000 lin. f wharfage, a labor camp for 1,000 and the dredging of the channe 30 ft.

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Large Mexican projects to start next year

The Mexican government has nounced that two large projects to $316,000,000 would be undertak starting in January, 1945. The big project involves $300,000,000 for e trification work. It is expected to 15 years to complete the undertak The government will furnish $20,0 000, the rest to be contributed by pri enterprises.

The other project calls for expe ture of $15,000,000 to improve the ernment-owned Petroleos Mexica refineries and other properties thro out the republic.

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Apprentice training planned for builders

A prospective shortage of skil building and construction workers the New York area is expected to somewhat alleviated by a revival of apprentice training program virtua abandoned in 1936. The apprent training is sponsored jointly by Building Trades Employers Assoc tion, The Building and Construct Trades Council of Greater New Yo Long Island and Vicinity and the N York Building Congress.

Each of the building and constr tion trades, or several acting toget will set up a trade apprentices board to determine the number of prentices, qualifications, method placement, and the standards to maintained. Apprentices will be dentured to the board, rather than individual employers, and will be shif to varying jobs during the train period.

San Diego makes plans on Colorado River water

The newly created San Diego County, if., Water Authority's campaign to d a means for importing the 100,000,- gallons of Colorado River water al- ated the county daily, has been rein- ced by two major developments.

The Metropolitan Water District, dis- sing terms under which it would ve the county, announced it would nstruct, operate and maintain a line nnecting with the system of the au- city at the San Diego County line. charge fixed by the district would be de for water delivered at that point. addition, most of San Diego County uld be required to join the district, rge its water rights with those of district, and meet district tax levies.

Meanwhile, Phil Swing, attorney for authority, prepared to attend a shington meeting of a committee ap- nted by President Roosevelt to study problem of water importation and ancing of facilities. The President designated the Bureau of Reclama- n as construction agent.

Another route besides that of a Metro- litan Water District connection being died by San Diego engineers is that a connection with the All-American nal. Studies which will lead to the nsferring of Colorado River water hts from the city of San Diego to the thority have been begun so as to avoid lay when it becomes advisable for the thority to have the rights in its own me.

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Early start expected on Washington highway

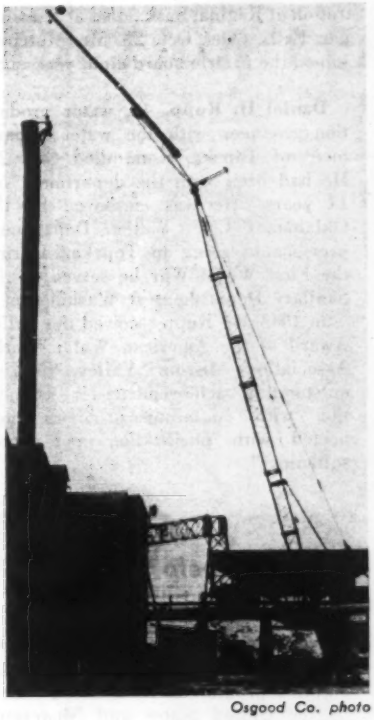
The Washington State Highway De- rtment has been granted approval the War Production Board that will rmit construction of a 10.8-mi., four- e highway on the Pacific route be- en the town of Woodland and lama River to the north.

Permission to construct the project, ich is slated to cost about $2,500,000, d been rejected by the WPB on three or occasions.

State Highway Director Burwell ntz is seeking early approval of plans the Public Roads Administration in er that bids can be called for.

Rights-of-way have already been pur- ased and $2,636,000 set aside for the . Of this amount $1,350,000 is fed- l funds.

Highway officials estimate the job, in- ding the paving of two of the four es, will be finished in about nine nths.



Osgood Co. photo

Ingenious method used to repair damaged stack

From the tip of a 135-ft. crane boom, a workman repairs a 110-ft. stack damaged in a recent storm. To attain the necessary height for the unusual job, a 45-ft. pole was lashed to the end of a gooseneck jib boom, which in itself provided an extended boom length of 100 ft. The ingenious idea was originated by Henry Selinsky, well-known contractor of Canton, Ohio.

Municipal contractors in southwest organize

A new organization known as the Associated Municipal Contractors, Southwest Section, has been set up by 18 water and sewer contractors operating in Texas, Oklahoma, Arkansas, Louisiana, and New Mexico. The organizers say that their purpose is to bring about higher standards in specifications, methods and ethics throughout the utility and municipal construction field in the southwestern states, and to obtain closer cooperation with governments, municipalities and private engineering firms.

The executive office is at 311 Construction Building, Dallas, Tex., and the officers are: J. G. Bartholemew, president; E. W. Sherman, vice president; and F. S. Oldt, secretary-treasurer.

Illinois repays $85,965 in engineering fees

The Illinois Department of Registration and Education recently, started returning fees totaling $85,965, which had been collected from applicants for a license under the Illinois Professional Engineering Act. This act had been declared unconstitutional by the Circuit Court of Sangamon County, Ill., and the decision had been sustained by the Supreme Court on Sept. 19. (*ENR* Sept. 28. p. 385).

Oct. 4 was the deadline for filing notice of intention for rehearing, and at a meeting Oct. 7 the board of directors of the Illinois Engineering Council instructed the legislative committee to proceed at once to draft a new bill meeting the objections of the old, which were that it was vague, uncertain, incomplete, indefinite, and incapable of enforcement or administration. The new bill is expected to be complete by Jan. 1, in time for the convening of the Illinois State Legislature.

Under the act, there had been 8,915 applicants—2,965 civil engineers; 2,530 mechanical; 2,082 electrical; 575 chemical; 391 architectural; and 372 structural. The registration fee was $10 for all except structural engineers, whose fee was only $1, as they are registered under a separate law.

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Structural steel school for Engineer units

A school for training selected members of Engineer units to build, reconstruct, and reinforce steel bridges, hangers and other structures used by tactical military units has been set up in the Army Service Forces Training Center at Camp Claiborne, La. The school will give a 280-hr., seven-week course. Training will consist of classroom work on the theory of erecting structural steel, and then field instruction. During the latter period, students will be left largely to their own knowledge and skill. One of the field problems is the assembling and placing of a 90-ft., 56,900-lb. steel truss bridge. Another problem concerns fabrications for a large building to be erected on the grounds.

Capt. R. L. Hubach is chief of section. Capt. M. F. Bartnett will supervise structural steel layout and erection, and other instructors are being provided to teach hoisting and rigging of steel to be used in construction and reinforcement; shop fabrication, including blue print reading and the marking of steel sections for cutting; and also cutting, welding and riveting.

OBITUARY

Thomas Ewing French, 72, a member of the engineering faculty at Ohio State University for more than 40 years, died at Columbus, Ohio, Nov. 2. He was the author of many textbooks in his field, especially on engineering drawing. Ohio State named Professor French its faculty representative when the university joined the Western Conference in 1912 and he remained active in that post until 1942. Last June he was awarded the Lamme Medal for outstanding achievement in engineering education. Professor French was born in Dayton, Ohio, and was graduated from Ohio State in 1895. He retired in 1942 with the rank of professor emeritus.

Dugald H. Duncanson, well-known California civil engineer, died Oct. 27 in Santa Barbara, Calif. For many years engineer in charge of construction for the Pacific Gas and Electric Co., he was later a partner in the Duncanson-Harrelson Co., contractors. Besides building the foundation for the Carquinez bridge across Carquinez Straits north of San Francisco, Mr. Duncanson built many of California's dams.

John L. Von Gunten, 61, vice president of the Indiana Engineering and Construction Co., Fort Wayne, Ind., died Oct. 26. He had been with the company for 35 years.

Richard V. Collins, 61, senior civil engineer of the New York State Department of Public Works, died in Albany, Oct. 24. He was graduated from M.I.T. in 1905. He was with the engineering department of the Pennsylvania Railroad from 1905 to 1907, and with the N. Y. State Highway Department from 1907 till his death being stationed at Syracuse, Binghamton, Rochester and Hornell until 1916 when he went to Albany as assistant to the commissioner, in charge of highway maintenance.

Mark O. Chamberlain, 56, project engineer for the government at Memphis, Tenn., died Oct. 25 at Lincoln, Neb. He attended Drake University and later was graduated from the engineering school of the Iowa State College at Ames. Following that, for many years he was an engineer for the Nebraska highway department.

James J. Mutchler, 39, senior engineer in charge of construction for the Prairie Farm Rehabilitation Administration at Regina, Sask., died at Shawinigan Falls, Que., Oct. 22. Mr. Mutchler joined the prairie board eight years ago.

Daniel H. Rupp, 48, water production engineer with the water department of Topeka, Kan., died Oct. 23. He had been with the department for 14 years. He was employed by the Oklahoma City Water Department previous to going to Topeka. During the First World War he served in the Sanitary Department at Washington.

In 1943 Mr. Rupp received the Fuller Award of the American Water Works Association, Missouri Valley, "for his outstanding achievements in connection with operating problems connected with purification and water softening."

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U. S. to help Nicaragua build more roads

President Anastasio Somoza of Nicaragua has approved an $8,000,000 road-building program to be financed jointly by the United States and Nicaragua. Recent surveys indicate that one-third of the Nicaraguan part of the Inter-American Highway and one-fifth of the Atlantic Coast Highway are completed.

WEEKLY CONSTRUCTION SUMMARY

CONTRACTS

Continental U. S. Only (Thousands of Dollars)

	Week Ending Nov. 11 1943	Nov. 2 1944	Nov. 9 1944
Federal	$43,409	$22,906	$5,550
State & Municipal	2,956	3,873	1,438
Total public	$46,365	$26,779	$8,988
Total private	16,607	5,614	1,817
TOTAL	$62,972	$32,393	$8,805
Cumulative 1944 (45 weeks)			$1,547,954
Cumulative 1943 (45 weeks)			$2,779,930

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1943 45 Weeks	1944 45 weeks
NON-FEDERAL	$298,382	$411,995
Corp. Securities	18,228	101,120
State & Mun.	114,476	165,935
RFC Loans	14,545	61,940
FPHA Loans	3,133	...
REA Loans	20,000	20,000
Fed.-Aid Hwy	128,000	63,000
FEDERAL	$2,753,838	$1,263,800
TOTAL CAPITAL	$3,052,220	$1,675,795

ENR INDEX NUMBERS

Index base=100		1913	1926
Construction Cost	Nov. '44	801.09	144.73
Building Cost	Nov. '44	236.10	127.63
Volume	Oct. '44	91	40

MEETINGS

National

NATIONAL RECLAMATION ASSOCIATION, ley Savoy Hotel, Denver, Colo., Nov.

THE PRODUCERS' COUNCIL, INC., 21st annual meeting, Hotel Roosevelt, New N. Y., Nov. 27-29.

AMERICAN ASSOCIATION OF STATE HIG OFFICIALS, annual meeting, Nethe Plaza Hotel, Cincinnati, Ohio, Nov.

AMERICAN SOCIETY FOR TESTING MAT and American Institute of Mining Metallurgical Engineers, Symposium Stress-Corrosion Cracking, Benjamin F lin Hotel, Philadelphia, Pa., Nov. Dec. 1.

Regional and Local

VIRGINIA SECTION, AMERICAN WATER W ASSOCIATION, John Marshall Hotel, mond, Va., Nov. 14-15.

SOUTH DAKOTA WATER AND SEWAGE W CONFERENCE, annual meeting, Lincoln H Watertown, S. D., Nov. 14-15.

VIRGINIA ROAD BUILDERS' ASSOCIATION, annual convention, Richmond, Va., No

FLORIDA SECTION, AMERICAN WATER W ASSOCIATION, Suwannee Hotel, St. Pe burg, Fla., Nov. 16-18.

MID-SOUTH SECTION, AMERICAN SOCIET CIVIL ENGINEERS, annual meeting, V burg, Miss., Nov. 17.

ILLINOIS SEWAGE OPERATORS' ASSOCIA annual conference, Leland Hotel, Sp field, Ill., Nov. 28-29.

CONFERENCE ON INDUSTRIAL WASTE UT TION, sponsored by the Sanitary Engi ing Department, School of Civil Engi ing and Engineering Mechanics, Pu University, and others, Purdue Univer Lafayette, Ind., Nov. 29-30.

ASSOCIATED GENERAL CONTRACTORS AMERICA, governing and advisory bo Drake Hotel, Chicago, Ill., Nov. 28-29.

NEW YORK STATE HIGHWAY CHAPTER, A CIATED GENERAL CONTRACTORS OF AME 19th annual meeting, DeWitt Clinton H Albany, N. Y., Dec. 6-7.

Cancellation

NORTHERN CALIFORNIA CHAPTER, A CIATED GENERAL CONTRACTORS, has can its 26th annual convention scheduled San Francisco Dec. 8 and 9.

• • •

Brazil's new steel mill to employ 6,000 in 194

Brazil's mammoth steel mill Volta Redonda, 90 miles from Rio Janeiro, is expected to begin pro tion early in 1945 with an estim output of 250,000 tons of finished s a year. The construction of the m will cost $100,000,000 and it is lieved that as many as 6,000 steel w ers will find employment.

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.
ELSIE EAVES, Manager *SCOTT McLEOD, Statistics* *J. A. MAHONEY, Reports*
(Daily service also available—Write for details)

WATER SUPPLY

POSED WORK

Cleveland—City, F. Foy, purch. agt., Hall, 1 story, bsmnt., 70x30 ft., brick, concrete addn. Fairmount pump. sta. Havens & Emerson, Leader Bldg..

Hillsboro—Village, J. W. List, mayor, filtration plant, reservoir. $163,000.

Longview—City, approx. 6,500 ft. watermain connecting filtration plant existing reservoir and approx. 2,280 ft. main connecting pump. main to distr. incl. valves, appurtenances, and rights-Wash. 45-315-N. $50,000. FWA.

Saint John—Municipality, 3 mi. rmain from Marsh Bridge to other end versing Falls. D. R. Smith, City Hall, P. Wks.

Leamington—R. E. Merson, clk. Twp., Leamington, West Marsh pump. inlet and outlet flume, concrete pumphouse, pump. $30,000.

Toronto—Municipality, watermain to new property development at Ellis $35,000.

West Lorne—Municipality, L. W. clk., WW sys. $15,000. C. R. Fort Erie, engr.

Montreal—Municipality, J. A. Mon-city clk., renewing 36 in. watermain Atwater Ave. to Outremont reservoir. H. A. Gibeau, City Hall, engr.

ASKED

Bids Asked In November

Wichita—City, R. E. McClure, mgr., ing dam, Central Ave. $35,000. E. L. way, city engr.

Bids Asked November 24

New Castle — Bd. Water & Light New Castle, water filtration plant, llaneous appurtenances. Plans deposit Albright & Friel, Inc., 1520 Locust St., 2, Pa., consult. engrs.; adv. ENR

Bids Asked November 30

Chicago — City, City Hall, low lift station and chemical bldg. for South Filtration Plant, on Lake Front, east outh Shore Dr. and north of E. 79 St. Hewitt, comr. P. Wks.; adv. ENR

TRACTS AWARDED

Hutchinson—City, T. C. Smith, clk., sys., sanitary sewer, drainage, curbing, ing at Hutchinson Municipal airport, to Shears & Son, Hutchinson. $39,406. 10/19. A. R. Campbell, city engr.

South San Antonio—San Jose Water Main St., concrete, Nelstone pump. sta-to G. Myer, 1760 Division Ave., San io, approx. $18,000. Bartlett Cocke, Milam Bldg., San Antonio, archts.

London—Utilities Comn., E. V. anan, genl. mgr., addnl. water supplies, Forward Ave. area, etc., to Inter-nal Water Supply Co., 12 Maitland St. $25,000. Awarded 10/21.

Ste. Adele—Village of Ste. Adele, duct, to N. Margitelli, 7470 Henri Julien Montreal, $25,000.

SEWERS, WASTE DISPOSAL

POSED WORK

Arcadia—Sanitary sewerage sys., biofiltration treatment plant with rination. Over $25,000. Koebig & Koe-Rowan Bldg., Los Angeles, engrs.

Hayward—Oro Loma Sanitary Dist., Foothill Blvd., will hold protest meet-Nov. 17, for setting up Assessment Dist. onstruction of sewers in Ashland Area, 000. C. Macabee, 156 University Ave., Alto, engr.

Oceanside—City, 17,000 lin. ft. vitr. sanitary sewer collection sys. addn. 00. Leeds, Hill, Barnard & Jewett, 601 St., Los Angeles, engrs.

Gretna—Jefferson Parish Police Jury, ge incinerator. $250,000. R. S. Stein-er, Metairie, engr. CD 10/27—ENR

McAlester — W. Jones, mayor, e disposal plant unit and facilities, 34-294. $90,000. FWA. Collins Engrg. 328 Arnote Bldg., engrs. CD 8/24—8/31.

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering New-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED: (except Streets & Roads); BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Ont., Peterboro — Municipality, sewage disposal plant. $100,000. R. H. Parson, City Hall, and M. V. Ferguson, Hespeler, engrs. CD 8/30—ENR 9/7.

LOW BIDDERS

Calif., Los Angeles—Bd. P. Wks., City Hall, Oct. 25, vitr. clay sanitary sewer in Noble Ave. and Moorepark St. Sewer Dist., from T. L. Gogo, 10024 S. Figueroa St., $127,288. Est. $121,387. CD 10/6—ENR 10/12.

†**Me., Bath**—City, H. O. Trowbridge, chn. Bldg. Comn., 13 Andrews Rd., Oct. 30, refuse incinerator, from Morse Boulger Destructor Co., 143 Federal St., Boston, Mass., $106,385. FWA. CD 9/27—ENR 9/28.

†**Va., Denbigh**—Bd. Supervs. Warwick Co., Denbigh, Oct. 25, sanitary sewerage facilities, Contr. 1, Va. 44-398, from Virginia Engineering Co., Melson Bldg., Newport News, $117,-638. FWA. CD 8/24—ENR 8/31.

BRIDGES

PROPOSED WORK

Ont., Fort William — City, A. McNaughton, clk., subway under Pacific Ave. at point where it crosses Canadian Pacific R.R. tracks or an overhead bridge at that point. $150,-000. H. M. Woodhouse, c/o City, engr.

BIDS ASKED

Bids Asked November 14

West Virginia—State Road Comn., D. W. McClaugherty, secy., Charleston, Stillwell Bridge 1624, one 36 ft. span, concrete arch, on State Route 47, S.P. 3538 A, near Davisville, Wood Co.

LOW BIDDERS

Ohio—State Hy. Dpt., Columbus, Oct. 31, bridge Shelby Co., from R. L. Wheelock, Christiansburg, $49,500. Est. $58,090. CD 10/20—ENR 10/26.

CONTRACTS AWARDED

Kansas—State Hy. Dpt., Atchison, Muscotah Bridge, Atchison Co., to List & Clark, 414 Railway Exchange Bldg., Kansas City, Mo., $41,024. Bids 10/20, awarded 10/26. CD 10/13.

STREETS AND ROADS

BIDS ASKED

Bids Asked November 14

N. Y., New York—President Manhattan Boro, Municipal Bldg., Zone 7, sidewalk and curb repairs, Contr. 3.

Bids Asked November 17

Minnesota—State Hy. Dpt., at District Maintenance Office, Virginia, crushing, screening, loading and hauling about 21,500 cu. yd. mineral aggregate, in stockpiles for Maintenance Div. Dist. 11. $27,000.

New York—H. A. Cohen, dir. Bureau Contracts and Accounts, State Office Bldg., Albany, bit. macadam repaving 5.73 mi. Rensselaer Co.; bit. macadam penetration method paving 4.17 mi. Seneca Co.; electrical work, lighting sys. for intersection Rtes. 7 and 8, Unadilla, near Sidney, Otsego Co. Plans deposit $5 each. C. H. Sells, Albany, supt. P. Wks., adv. ENR 11/9.

Bids Asked November 28

California—State Div. Hys., Sacramento, grading, asphaltic concrete on crusher run paving 0.3 mi. between Sneath Lane and Florest Lane in San Bruno, San Mateo Co. G. T. McCoy, state hy. engr.

LOW BIDDERS

Indiana—State Hy. Comn., Indianapolis, Oct. 31, widening rock cut U. S. Road 50, 1.5 mi. northwest of Shoals, Martin Co., from Smith & Johnson, 1799 Kentucky Ave., Indianapolis, $51,139, est. $66,853; erosion control 0.654 mi. State Road 61, northward from White River, Knox Co., from E. E. Schnitzius Co., Consolidated Bldg., Indianapolis $40,887, est. $51,181. R. Bower, c/o owner, ch. engr.

★**Ohio**—State Hy. Dpt., Columbus, Oct. 31, imprv. 0.19 mi. Trumbull Co., from Kane, O'Horo & Haenny, 65 W. Indianola Ave., Youngstown, $39,330, est. $25,000***0.492 mi. Lucas Co., from S. E. Johnson Co., 218 Terminal Bldg., Toledo, $25,587, est. $25,600 ***2.891 mi. Seneca Co., from The Barricklow Constr. Co., 1775 Franklin Park S., Columbus, $134,334, est. $174,800***0.883 mi. Brown Co., from Monroe Constr. Co., 2344 Gallia St., Portsmouth, $141,036, est. $126,-200***0.73 mi. Clark Co., from Hinton & Smalley, 304 W. Market St., Celina, $92,925, est. $119,200***0.18 mi. Portage Co., from The Holmes Constr. Co., 443 Palmer St., Wooster, $99,986. CD 10/20—ENR 10/26.

CONTRACTS AWARDED

Minnesota—State Hy. Dpt. at District Maintenance Office, Mankato, crushing, screening, loading and hauling about 12,050 cu. yd. gravel for Maintenance Div., Mankato, Blue Earth Co., to R. Jeffries, Winnebago, $25,076. Bids 10/23. CD 10/11.

Minnesota—State Hy. Dpt., at District Maintenance Office, Virginia, crushing, screening, loading and hauling approx. 25,500 cu. yd. gravel for Maintenance Div., Virginia, to Zontelli-Herbison, Inc., Ironton, $27,785. Bids 10/20. CD 10/4—ENR 10/12, under Virginia, Minn.

Minnesota—State Hy. Dpt., at District Maintenance Office, Morris, crushing, screening, loading, hauling about 27,300 cu. yd. gravel for traffic bound wearing course and for stockpiling, for Maintenance Div., Morris, Stevens Co., to G. D. Alexander, 1111 3 Ave. S. Minneapolis, $41,574. Bids 10/27. CD 10/11—ENR 10/19.

Oregon—State Hy. Comn., Salem, grading, paving Roseburg Access Road on Pacific Hy., Proj. DA-RM 85 (1), Douglas Co., to Charles Shannon & Son, Roseburg, $50,954. Bids 10/24. R. H. Baldock, Salem, engr.

†**Va., Quantico**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W.,

STREETS, etc. (Contracts Awarded, Cont'd.)

Wash. 25, D. C., **resurfacing range road, Marine Barracks,** NOY 10785, to **Kent & Co.,** 2735 W. Broad St., Richmond, **Zone 20, $40,400.** Bids 10/17.

EARTHWORK, WATERWAYS

PROPOSED WORK

Ohio—Ohio Conservation Dpt., D. Waters, dir., State Office Bldg., Columbus, headwater fishing lakes, 400 acre site, Hocking Co., $50,000; 161 acres, Pickaway Co., $50,000; 107 acres, Madison Co., $32,000; 150 acres Morgan Co., $30,000; 43 acres, Adams Co., $16,000; 200 acres, Brown Co., $18,000. P. Runkle, c/o owner, ch. engr.

BIDS ASKED

Bids Asked November 14

In., Eldora—Bd. Supervs. Hardin Co., Eldora, constructing Drainage Dist. 150, furnishing, laying 23,833 lin. ft. 6- to 20-in. tile, constructing 12 intakes and necessary clearing, grubbing. Over $15,000. R. Johnson, Eldora, co. engr.

Bids Asked November 15

New York—Commissioner Marine & Aviation, Pier A, foot of Battery Pl., North River, New York, Zone 4, dredging foot of 44 Dr. (Nott Ave.), East River, Queens Boro. Plans deposit $1.25.

Bids Asked November 20

†Okla., Blair—Bureau Reclamation, Dpt. Interior, H. W. Bashore, comr., Altus, constructing **West Canal Turnout at Station 224 plus 25.3, Altus Main Canal;** check at Station 224 plus 48.95, Altus Main Canal, earthwork and structures, Station O plus 75.5 to Station 589 plus 25, West Canal Altus Project, west of here, Spec. 1081. $300,000. Extended date. CD 10/10—ENR 10/12.

LOW BIDDERS

California—State Div. Hys., 808 State Bldg., Los Angeles, Oct. 26, 0.5 mi. Storm water channel between Devore and Alray, from Mittry Bros. Constr. Co., 1801 San Fernando Rd., Los Angeles, $15,760. CD 10/12.

Louisiana—Vermillion River Irrigation Co., Inc., Bank of Commerce & Trust Bldg., Crowley, Oct. 25, 4 mi. canal expan., approx. 240,000 cu. yd. excav., enlargement Ruth Canal from Bayou Teche to Vermillion River, from Jas. P. Cress, Abbeville, $68,000. Pan American Engineers, 913 Fifth St., Alexandria, engrs. CD 10/11—ENR 10/19.

†Tex., Port Arthur—U. S. Eng., 25 St. and Avenue G, Galveston, Oct. 30, dredging approx. 2,900,000 cu. yd. lower end Neches River Channel and upper end Sabine-Neches Canal, from Gahagan Constr. Co., 5240 Prytania, New Orleans, La., approx. $136,010.

CONTRACTS AWARDED

†Ill., Granite City—U. S. Eng., 816 U. S. Courthouse & Customhouse, St. Louis 2, Mo., altering drainage lift station, Contr. W-23-065-eng-627, to Buesching Bros. Constr. Co., 219½ E. Berry St., Fort Wayne, Ind., approx. $15,487.

LATIN AMERICA

Mexico—Ministry Public Education, Jorge Gonzales Duran, chief, Argentina, 104, Mexico, D. F., plans public libraries various locations. $610,000.

Mexico, Culiacan—State Govt., Palacio del Estado, Culiacan, plans 2 residential zones of 1,000 lots each and a highway to circumnavigate the city. $2,150,000. Work to start early in January. Costs to be defrayed equally by State and Municipal Governments. Ing. Napoleon Ramos Salido, Palacio del Estado, Culiacan, engr.

Mexico, Hermosillo—Sonora Govt., Gen. Abelardo L. Rodriguez, governor, Palacio del Estado, Hermosillo, plans state public library and museum. $210,000.

Mexico, Mexico City—Confederation of Mexican Labor, Fidel Velasquez, secy. gen., Madero, 74, Mexico, D. F., plans 6 story headquarters bldg. $1,150,000.

Mexico, Mexico City—Jose Garza Fernandez, Ave. 16 de Septiembre, 52-301, Mexico, D. F., plans plant for preparation bee's honey for export. $125,000.

Mexico, Mexico City—Mexico City Rotary Club, San Juan de Letran, 24-307, Mexico, D. F., plans by Roberto Alvarez Espinosa, Insurgentes, 536, Mexico, D. F., 6 story headquarters and private offices bldg. $560,000.

Mexico, Mexico City—Ministry Public Education, Argentina, 104, Mexico, D. F., plans school to accommodate 1,000 pupils. $150,000.

Mexico, Mexico City—Soc. Mexicana de Credito Industrial, V. Carranza, 44, Mexico, D. F., plans 8 story, headquarters and private offices bldg. $1,175,000.

Mexico, Piedras Negras—City, plans brick, rein.-con. high school. $250,000.

Mexico, Tacubaya—Eugenio N. de Alcocer, Ave. Industria, 142-2, Tacubaya, D. F., plans banana dehydration factory. $125,000.

Mexico, Torreon—National Rys. of Mexico, E. Rodriguez y Parra, Eng. M. W., 19 Bolivar St. and 5 de Mayo St., Mexico City, plans passenger-freight station, in conjunction with Ministry of Communications and Public Works. $415,000.

Venezuela, Caracas—Republic of Venezuela, Caracas, voted $1,194,000 for low price housing, 1944-45 construction. Dpt. P. Wks., Caracas, engr.

PUBLIC BUILDINGS

PROPOSED WORK

†Calif., Alameda-Oakland—Pub. Housing Auth., NHA, 760 Market St., Phelan Bldg., San Francisco, plans by J. J. Donovan, 950 Parker St., Berkeley, 40 temporary family units, Calif. 4955-N.

†Calif., El Toro—Pub. Housing Auth., NHA, 760 Market St., San Francisco, plans by Marsh, Smith & Powell, 816 W. 5 St., Los Angeles, 180 family dwelling units, Calif. 4898-N. Over $150,000.

†Calif., Livermore—Pub. Housing Auth., NHA, 76 Market St., Phelan Bldg., San Francisco, plans by W. D. Peugh, 332 Montgomery St., San Francisco, 124 temporary family dwelling units, Calif. 4956.

†Calif., Los Angeles—Los Angeles City School, 1151 S. Bway., school, Calif. 4-656-F. $64,600. **FWA.**

†Calif., Los Angeles—City, 1 story, part bsmnt. health center and clinic bldg., Calif. 4-625-N. $200,000. **FWA.**

†Calif., Port Chicago—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., architectural and engineering services by C. C. Kennedy, 604 Mission St., San Francisco, utilities, Naval Magazine.

†Calif., Rosemead—Rosemead Elementary School Dist. of Los Angeles Co., school, Calif. 4-642-N. $58,900. **FWA.**

†Calif., Santa Ana—Pub. Housing Auth., NHA, 760 Market St., San Francisco, plans by Marsh, Smith & Powell, 816 W. 5 St., Los Angeles, 75 family dwelling units, Calif. 4913-N. Over $150,000.

†Calif., Upland—Pub. Housing Auth., NHA, 760 Market St., San Francisco, plans by J. Dewey Harnish, 212 E. B St., Ontario, and Marsh, Smith & Powell, 816 Architects Bldg., Los Angeles, site development and constructing 200 portable dwelling units housing Kaiser Co. workers, Calif. 4890. $340,000.

†Conn., Derby—Pub. Housing Auth., NHA, 34 School St., Boston, Mass., making plans storage bldg., Conn. 6172.

†Conn., Stratford—Pub. Housing Auth., NHA, 34 School St., Boston, Mass., received no bids Oct. 27, drying yards, housing, Conn. 6057.

†Ga., Rockmart—Polk Co. Bd. Educ., Rockmart, 1 story school, Ga. 9-328-F. $39,000. **FWA.**

Ill., Oaklawn—South Stickney Twp. School Dist. 111, 8410 S. Mayfield St., plans by J. C. Coyle, 215 Herkimer St., Joliet, 2 story, brick, concrete school, in South Stickney. $285,000.

†Ill., Summit—Village, 1 story, part bsmnt. municipal fire and police station, incl. equip., Ill. 11-313-N. $36,700. **FWA.**

†Ind., Indianapolis—Bd. Health, H. G. Morgan, M.D., secy., City Hall, plans by H. R. Robinson, 1927 11 St., Wash., D. C., 2 story, part bsmnt., 35x96 ft., wing 32x33 ft., brick, stone, rein.-con. health clinic, Ind. 12-122224-N. $150,000. **FWA.** CD 10/27—ENR 11/2.

★**†Kan., Topeka**—Goodyear Tire & Rubber Co. of Kansas, Inc., 1144 E. Market St., Akron, O., plant. Approx. $1,850,000. Defense Plant Corp. will finance.

†La., Baton Rouge—U. S. Eng., Avenue F and 25 St., Galveston, Tex., personnel bldg. at Engineering Depot. $150,000.

†N. Y., Depew—U. S. Eng., 120 Wall St., New York, Zone 5, bids soon prefabricated storage bldgs. $68,000.

N. Y., Evans Mills—Bd. Educ., Evans Mills, plans by D. K. Sargent, Kemper Bldg., Syracuse, school addn.

†N. Y., Syracuse—U. S. Eng., 120 Wall St., New York, Zone 5, bids soon prefabricated storage bldgs. $137,000.

†O., Cleveland—Bd. Educ, Cleveland City School Dist., 1380 E. 6 St., 1 story addn., Riverside School, Ohio 33-302-N. $78,000. **FWA.**

†Pa., Meadville—David Meade Distilling Co., Race St., plant. Approx. $100,000. Defense Plant Corp. will finance.

†Pa., Phila.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., engineer-architect services by Jaros, Baum & Bolles, 415 Lexington Ave., New York 17, N. Y., for engineering design bldg., modification services, etc. NAMC.

†Tex., Fort Worth—Village Creek Common School Dist. 55, 1 story school, Tex. 41-704-N. $14,250. **FWA.**

†Tex., Pasadena—[illegible] Educ., Pasa[illegible] plans by Hedrick & Lindsley, 816 S. Shaw[illegible] Bldg., Houston, school, Tex. 41-706-N. [illegible] 000. **FWA.** CD 10/27—ENR 11/2.

†Tex., Wichita Falls—Wichita Falls Engineering Co., Wichita Falls, reconstructing [illegible] bldg. Over $40,000. Defense Plant [illegible] will finance.

†Wash., Bangor—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., engineering services by Berry Engr. Co., Elks Temple Bldg., [illegible]erton, bldgs., Naval Magazine.

†Wash., Bryn Mawr—King County Fire Protection Dist. 20, fire station, W[illegible] 45-313-N. $22,000. **FWA.**

†Wash., Renton—Boeing Aircraft Co., Ave. S. and E. Marginal Way, Seattle, [illegible] nery revetment, offices and inspection [illegible] and ammunition house at Boeing [illegible] $120,000. Defense Plant Corp. will finance.

Man., Winnipeg—Municipality, psychiatric hospital. $200,000.

Ont., Kitchener—Kitchener Pub. Utilities Comm., O. Thal, mgr., diesel-powered station by power plant, 300,000 k. hrs. per [illegible] $250,000.

P. E. I., Charlottetown—Dominion Govt., Ottawa, Ont., plans by Dpt. Naval Affairs, Cartier Sq. Ottawa, Ont., barracks and [illegible] training establishments. $350,000.

BIDS ASKED

Bids Asked November 13

†Conn., Bridgeport—Pub. Housing Auth., NHA, 24 School St., Boston 8, Mass., housing, drainage, Huntington Rd. War Housing, Conn. 6053. Lindsay & Johnson, 211 [illegible] St., archts. CD 8/22—ENR 8/24.

†Conn., New London—Pub. Housing Auth., NHA, 24 School St., Boston, Mass., grading, drainage, housing Conn. 6017. Plans deposit $50 for first set and $10 for ea. addnl. J. W. Whitney, Belden Hill, Wilton, archt. CD 10/31—ENR 11/2.

†Wis., Merrimac—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago 6, Ill., 100 unit family portable shelter housing, [illegible] 47085, 150 unit family portable shelter housing, Wis. 47086. (Correction—location of project). CD 10/31—ENR 11/2, under Merrimac.

Bids Asked November 14

†Mass., Milton—Pub. Bldgs. Admin., and F Sts. N.W., Wash. 25, D. C., port of miscellaneous repairs.

†Pa., New Castle—Pub. Housing Auth., NHA, 270 Bway., New York 7, N. Y., 100 unit family trailer housing, Pa. 36446. A. Martsolf 512 3 Ave., New Brighton, archt. CD 10/30—ENR 11/2.

†Pa., Shaler Twp.—Allegheny Co. Housing Auth., 201 County Office Bldg., Pittsburgh, site imprvs., Pa. 36161, for NHA. [illegible] Extended date. CD 10/26—ENR 4/13.

†R. I., Newport—Federal Works Agency, 101 Park Ave., New York 17, N. Y., renovation bldg., addn. to dormitory, W. Broadway, Noel & Miller, 6 Catherine St., archts. 10/17—ENR 10/19.

Bids Asked November 16

†Pa., Middletown—Pub. Housing Auth., NHA, 270 Bway., New York 7, N. Y., [illegible] ing, drainage at Pine Ford Acres housing, $35,000. W. Lynch Murray, 1100 N. 2 [illegible] Harrisburg, archt.

Bids Asked November 17

†Calif., Fetters Springs—District Engineer, Federal Works Agency, 15 Shattuck Sq., Berkeley, Zone 4, 3 classroom school, C. 4629-F. $20,200. **FWA.** Plans deposit $5. J. Clarence Feiciano, 237 Talbot Ave., Santa Rosa, archt. CD 9/22—ENR 9/28.

Bids Asked About November 21

†Mont., Drummond—Pub. Housing Auth., NHA, Skinner Bldg., Seattle 1, Wash., [illegible] mantling 10 unit housing at Anaconda, transporting, re-assembling here. M. 24036. W. Arnold, Butte, archt. CD 10/[illegible] ENR 10/26.

Bids Asked December 5

Ind., Rushville—Bd. P. Wks., D. A. Lo[illegible] mayor, chn., City Hall, 1 story, brick, [illegible] con., structural steel municipal power p[illegible] addns., imprvs., 1,200 h.p. water tube [illegible] 10,000 k.w. turbo-generator, distr. sys. [illegible] 000. Plans deposit $125. Bevington, [illegible] gart & Fowler, Inc., 730 Ind. Pythian [illegible] Indianapolis, consult. engr.

Bids Asked

★**†Okla., Guymon**—Cabot Carbon Co., Massachusetts, Guymon, carbon [illegible] plant. $1,500,000. Defense Plant Corp. [illegible] finance. CD 11/2.

CONTRACTS AWARDED

†Calif., Hunters Point—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., motion picture [illegible] ter, Naval Drydocks, NOY 9378, to Carl Swenson Co., 355 Stockton Ave., San [illegible] $188,450.

†Ill., Chicago—Home Owners Loan Corp., 336 N. Wells St., remodeling apartment, lodge bldg., State St. and 37th Place, to [illegible] roll Constr. Co., 332 N. Michigan Ave.

...IC BLDGS. (Contracts Awarded, ...d.)

...st. F. A. McNally & Associates, 105 W. ... St., archts.

... Granite City—U. S. Eng., Granite ... concrete floors and gutters, Granite ... Engineering Depot, Contr. W-11-052-...16, to L. E. Millstone Constr. Co., 4343 ... Ave., St. Louis, Mo., **$62,180.**

... Hammond—U. S. Eng., 520 Mer... ...ne Mart, Chicago, Ill., 1 story, 32x160 ...d 32x75 ft., concrete block office and ...ouse bldgs., to James McHugh Sons, ... Park Ave., Chicago, Ill., **$40,000.**

... Washington—Bd. P. Wks., S. Smith, ...r. chn., City Hall, 1 story municipal ... plant addn., remodeling, to J. Kretz, ...ington, $22,277; piping, to Freyn Bros., ...N. Illinois St., Indianapolis, $15,151. ... takes bids later on boiler, stoker, ...blower, combustion equip. Bids 10/30. ...9/23.

... New Orleans—Consolidated Vultee ...ft Corp., 7020 Franklin Ave., electrical ...on 2 sub-assembly aircraft mfg. bldgs., ... D. Odom Elec. Co., 629 Julia St., ...; water sys. for fire protection for ... bldgs., to Grinnell Co., 1018 Calliope ...5,435. Defense Plant Corp. will finance. ...15—ENR 6/22.

... Worthington—City, G. S. Thomp... ...alk., power plant imprvs., furnishing ... cars Worthington, 4,000 kw. steam ...e generator, to Westinghouse Elec. & ...Co., 2303 NE Kennedy St., Minneapolis, ...; surface condenser with auxiliaries, ...liott Co., 216 Baker Bldg., Minneapo... ...4,550. Bids 10/27. CD 4/6—ENR 4/13.

... St. Louis—U. S. Eng., 816 U. S. ...house & Customhouse, St. Louis, Zone ...uctural alterations and addns. in bldg. ...onstructing overpass, Contr. W-23-065-...21, Chevrolet Shell Div. Forging Plant, ...kie Constr. Co., 315 N. 11 St., **$103,646.**

... J., Bayonne—Yards & Docks, Navy ...18 St. and Constitution Ave. N.W., ... 25, D. C., addnl. storage facilities, ... Supply Depot, NOY 10587, to Daniel ...cNamee & Co., Inc., 271 North Ave., ...Rochelle, N. Y., **$57,750.**

... ex., Odessa—United Carbon Black Co., ...e, United Carbon Bldg., Charleston, ..., and Odessa, Tex., design and con...tion Plant Jobs 1 and 2, channel type ...e black mfg. plants, to Ford, Bacon ...vis, 39 Bway., New York, N. Y., **$600,...** Defense Plant Corp. will finance. CD ...—ENR 11/2.

... sh, Ogden—U. S. Eng., 1209 8 St., ...mento 8, Calif., freight warehouse, at ... Arsenal, Spec. 975, to R. E. McKee, ... Box 1110, **$159,855.** Bids 10/28. CD

... , Arlington—Yards & Docks, Navy ...18 St. and Constitution Ave. N.W., ... 25, D. C., housing and recreation ...ies for Marine Corps Women's Re... Spec. 14501, NOY 10059, to Skinker & ...t. 1719 1 St. N.W., Wash., D. C., ...00. Bids 10/11. CD 10/13—ENR 10/19, ... LB.

... , Valcartier—Dpt. Naitonal Defense ...7), Ottawa, Ont., small arms bldg., ... at Dominion Arsenal, to Adelard ...ariers et Fils, Ltd., 68 Lalement St., ...ec City, about **$85,000.**

...OMMERCIAL BUILDINGS

...OSED WORK

... f., San Fernando—Community Hospi... ...sn., Security Bank Bldg., plans by R. ...on, Pebble Beach, 1 story, reinforced ... general hospital bldg., 3 and Harding ...$250,000. Applied for FWA funds.

... Alexandria—Bishop Daniel F. Des... ...of Alexandria Diocese, 150 bed hospi...c., on 55 acre site on Monroe, La. Hy. ...00. Site purchased.

... h., Grand Rapids — Carmelite Sisters, ...Walker St. N.W., plans by E. Brielmaier ... Co., 735 N. Water St., Milwaukee, ...2 story, bsmt. Home for Aged, brick, ...concrete. $250,000.

... J., Somerville—Somerset Hospital, Re... ...Ave., soon lets contract service bldg. ... Lewis & Wick, 200 5 Ave., New York ...Y., archts. CD 9/20/43—ENR 9/23/43.

... , Rochester—Blessed Sacrament R. C. ...h, 267 Rutgers St., plans by L. J. Rib... ...2 Wilmer St., rectory and recreational

... ka., Bartlesville—Phillips Petroleum ...rp., Bartlesville, plans by Neville & ... 1221 Baltimore St., Kansas City, Mo., ...y. bsmnt. office and recreational bldg. ...,000.

... , Granby—J. Lemieux, secy. Granby ...ic School Comn., 118 Main St., new ...on school, St. Eugene Pariah. $175,000. ...10/18 rejected. R. Blanchet, 53 D' ...St., Quebec City, archt. Lalonde & ... Canada Cement Bldg., Montreal, ...CD 10/17—ENR 10/19.

... , Hull—L. Bisson, 21 Ste. Marie St., ...Blvd. St. Joseph. **$150,000.**

Que., Montreal—Le Sanatorium Bruchesi de Montreal, c/o J. U. Boyer, BanqueProvinciale du Canada, sanatoria. **$200,000.**

CONTRACTS AWARDED

Calif., Altadena—Charles Cook Hastings Home, Altadena, 4 hospital bldg. addn., alterations, to S. O. Bennett, 1215 E. Calaveras St., approx. **$150,000.** Hunt & Chambers, 816 W. 5 St., Los Angeles, archts.

Tex., Houston—Galena Housing Corp., 5007 Telephone Rd., 31 frame, sheet rock, etc., residences, to Hunter Lumber & Bldg. Co., 5007 Telephone Rd., approx. **$150,000.** H. Lloyd, 4605 Montrose St., arclrt.

Tex., Houston — Townsend Constr. Co., 6418 Kernal St., 40 brick residences, concrete fdns., etc. Owner builds. **$250,000.** T. H. McCleary, 2017 W. Gray St., archt.

Tex., San Antonio—Meadow View Development Co., Route 3, Box 405C, 68 frame, street rock dwellings, force account, **$225,000.** CD 10/31—ENR 11/2.

B. C., Vancouver—Missionary Sisters of the Immaculate Conception of St. Joseph, 235 Campbell Ave., 5 story, 44x138 ft., rein.-con. hospital, Kingsway near 15 Ave., to Armstrong & Monteith Constr. Co., Ltd., 1383 Hornby St., **$219,065;** plumbing and heating, to Barr & Anderson, Ltd., 1060 Homer St., **$33,500.** CD 4/26.

INDUSTRIAL BUILDINGS

PROPOSED WORK

Conn., Norwalk — WAREHOUSE — J. F. Trommers, 1632 Bushwick Ave., Brooklyn, N. Y., brick warehouse, etc., School St. $40,000. Fletcher Thompson, Inc., 211 State St., Bridgeport, engr.

★**Ill., Chicago**—FACTORY, etc.—Majestic Radio & Tel. Corp., 2600 W. 50 St., plans by A. Epstien, 2001 W. Pershing Rd., factory and office bldg. $750,000.

★**Ind., Indianapolis**—PLANT—Albert Kahn Associated Architects and Engineers, Inc., archts., 345 New Center Bldg., Detroit, Mich., soon lets contract seven 1 story, brick, rein.-con., structural steel mfg. plant bldg. addns., for General Motors Corp., General Motors Bldg., Detroit, Mich. $1,000,000.

Ky., Louisville — WAREHOUSE — C. T. Dearing Printing Co., 1100 W. Broadway, 3 story, concrete storage warehouse, $178,-000.

Ky., Louisville — DRYER — Tobacco By-Product & Chemical Corp., 1350 S. 17 St., 1 story, bsmnt., 60 x 180 ft., brick, concrete dryer bldg. $65,000.

La., Baton Rouge — PLANT — General Chemical Co., 40 Rector St., New York, N. Y., hydrofluoric acid plant.

Me., Bethel—PLANT—J. A. Thurston Co., Inc., rebuilding woodworking bldg. Over $40,000.

Mich., Detroit — TRAIN SHED — Hudson Motor Car Co., 12601 E. Jefferson Ave., making plans 1 story, 58 x 425 ft., brick, steel, concrete, timber enclosed train shed dock at Jefferson Ave. plant. $55,000.

N. Y., Olean—PLANT—Dailey Mills, Inc., Marine Midland Bldg., Binghamton, 6 story, concrete, steel main bldg. animal feed mfg. plant, warehouses, garages, loading docks, west end of city. $300,000.

O., Mineral City—PLANT—Federal Refractories Corp., Brimfield Rd., Akron, rebuilding 1 story, brick, tile, steel plant. $40,000 or more.

R. I., Cranston—FACTORY—Atlantic Tubing & Rubber Co., S. Weinstein, Cranston St., plans being completed by E. Migliori, 509 Westminster St., Providence, 1 story, 100 x 120 ft., brick factory. $45,000.

Tex., Galveston—SHOP—Todd Dry Dock & Shipbuilding Corp., Pelican Dike, Galveston, steel, rein.-con. shop unit. $40,000.

Tex., Harlingen—PLANT—Coastal Chemical Co., Inc., c/o Niagara Sprayer & Chemical Co., Middleport, N. Y., and 421 N. C St., Harlingen, 1 story, brick, stone, concrete hollow tile chemical plant unit. $40,000.

Tex., Houston—WAREHOUSE—S. R. Bishkin, 3201 McKinney St., 1 story, 100x250 ft., concrete warehouse, etc. $60,000.

Tex., Houston — WAREHOUSE — Missouri Pacific R. R. Co., F. E. Bates, ch. engr., Missouri Pacific Bldg., St. Louis 3, Mo., replacing large warehouse. Over $40,000.

Tex., Kenedy — COTTON COMPRESS — Kenedy Compress Co., Kenedy, replacing cotton compress unit. $75,000.

Tex., Laredo—SHOP, etc.—Texas-Mexican Ry. Co., R. W. Morrison, pres., Alamo National Bldg., San Antonio, expan. shop and terminal yards, railway spur tracks, grounds development, leveling, electric facilities, etc., over $50,000; expan. mechanical repair shops, $100,000.

Tex., McAllen—PLANT—Missouri Pacific R. R. Co., F. E. Bates, ch. engr., Missouri Pacific Bldg., St. Louis 3, Mo., 1 and 2 story citrus packing plant. $40,000.

Tex., San Antonio — WAREHOUSE — Handy-Andy Community Stores, Inc., 501 N. Cherry St., plans by J. Marriott, 220 Frost Bldg., warehouse. $40,000.

Tex., San Antonio—WAREHOUSE, etc.—Southside Funeral Home, Wiggins and S. Flores Sts., warehouse and mortuary. $40,000.

W. Va., Chester—KILN—Continental Kilns, Inc., Chester, acquired Davidson Porcelain plant and plans installing 80 ft. double tunnel kiln. $50,000.

Ont., Toronto—PLANT—Gelatin Products, Ltd., 258 Chilver Rd., Windsor, 1 story plant, Danforth Ave. and Kingston Rd. About $45,000.

Que., Mont Laurier—FACTORY—Dr. T. Lackapelle & E. Lauzon, Mont Laurier, 1 story, 50x100 ft. and 1 story, 50x190 ft., plywood and veneer factory, concrete, steel, concrete block. $200,000.

Que., Montreal—PLANT—De Luxe Braid, Ltd., c/o R. Pinard, 132 W. St. James St., braid, textile trimmings, shoe manufacturers supplies, etc., mfg. plant. $40,000.

Que., Montreal — FACTORY — Dominion Lock Co., Ltd., 3860 St. Ambroise St., plans by H. J. Doran, 4700 Cote des Neiges Rd., 1 story, 80x200 ft. factory, Centre Ave. $40,000. CD 8/23—ENR 8/31.

Que., Montreal—PLANT—Quebec Envelope Co., Ltd., c/o Peter J. B. Brass, Sr., Lachine, envelope, bag, wrappers and container mfg. plant. $45,000.

Que., Montreal—PLANT—Regal Lingerie Mfg. Co., Ltd., c/o J. Helal, 159 W. Craig St. W., dress, ladies' and children's wearing apparel, etc., mfg. plant. $50,000.

Que., Montreal—PLANT—Safety Step Ladder & Woodwork Co., Ltd., c/o M. Herman, 159 W. Craig St., woodworking plant, sawmill, etc. $40,000.

BIDS ASKED

Calif., Wilmington — LABORATORY—The Shell Oil Co., 1008 W. 6 St., Los Angeles, 1 story rein.-con. experimental laboratory for research on 100-octane gasoline. Over $40,000. CD 5/9—ENR 5/11.

★**Ont., New Toronto**—PLANT—Mathers & Holdenby, archts., 96 Bloor St. W., Toronto, 2 story, 144x400 ft., brick, concrete plant addn., for Campbell Soup Co., Ltd., 1 St. and Birmingham Ave. $600,000. CD 5/22—ENR 5/25.

CONTRACTS AWARDED

Calif., Los Angeles — FACTORY — White Motor Co., 435 E. 20 St., factory alterations, to The Austin Co., 777 E. Washington Blvd. **$65,000.**

Ia., West Burlington — SHOP — Chicago, Burlington & Quincy R. R. Co., H. R. Clarke, ch. engr., 547 W. Jackson Blvd., Chicago 6, Ill., 1 story, brick railroad shop addn., alterations, to Charles B. Johnson & Son, 6 N. Michigan Ave., Chicago, Ill., **$50,000.** CD 8/25—ENR 8/31.

Minn., St. Paul — FACTORY — National Cylinder Gas Co., C. E. Bodin, 2340 University Ave., St. Paul, general contract 1 story, 45x65 ft., brick, concrete, and 1 story, 60x60 ft., brick, factory bldgs., N. Lexington Ave. and Northern Pacific tracks, to J. S. Sweitzer & Son, 739 Pillsbury Ave. Est. **$45,000** each.

N. C., Charlotte—PLANT—Auto Spring Co., 110 E. Stonewall St., 1 story, 70x149 ft. bldg., W. Morehead St. and Wilkinson Blvd., to Southeastern Constr. Co., 218 W. 2 St., **$50,000.**

Ore., Portland—WAREHOUSE—American Sheet Metal Works, 920 N.E. Glisan St., 125x200 ft. warehouse, incl. 50 ft. and 75 ft. cranes, 8 and E. Flanders Sts., to A. J. Bingham & Son, Couch Bldg., **$75,000.** Awarded 10/23. E. Cash, 1616 S.W. Spring St., archt.

Ore., Salem—PLANT—Dairy Cooperative Assn., 1313 S.E. 12 St., Portland, market milk and receiving plant, to E. Viesco, Box 69, **$105,532.** Awarded 10/27. Claussen & Claussen, Guardian Bldg., Portland, archts.

Pa., Harrisburg—PLANT—Hershey Creamery Co., 301 South Cameron St., ice cream plant addns., to J. Stapf, 3465 North Sixth St., **$136,000.** Lawrie & Green, 321 North Front St., archts.

Pa., Lebanon—FACTORY—Textile Print. & Finishing Co., c/o A. L. Hanford, printing and finishing factory plant addn., Spruce and Mifflin Sts., to D. L. Saylor & Son, Annville, **$100,000.** E. Z. Scholl, Reading, archt.

Tex., McAllen — PLANT — Southwestern Sugar & Molasses Co., Chamber of Commerce, 1 and 2 story, brick, concrete, street metal dehydration plant bldgs., to Brown & Root, Inc., P. O. Box 3, Houston, approx. **$96,000.** CD 10/30—ENR 11/2.

Ont., Brampton—PLANT—Canadian Tampax Corp., Ltd., 533 College St., Toronto, remodeling plant, to R. G. Kirby & Son, Ltd., 539 Yonge St., Toronto. Est. **$40,000.** J. Laying, 96 W. Bloor St., Toronto, archt. CD 8/16—ENR 8/17.

Ont., Toronto—FACTORY—Cameron Mfg. Co., Ltd., 1276 Bathurst St., 1 story, bsmnt., 50x120 ft., brick factory, concrete fdn., to W. Edwards, 337 Ruehholme St. Est.

INDUSTRIAL BLDGS. (Contracts Awarded, Cont'd.)

$40,000. G. S. Adamson, 96 W. Bloor St., archt. C. W. James, 621 Spadina Ave., engr.

Que., Berthierville — PLANT — Melchers Distilleries, Ltd., 437 St. James St. W., Montreal, 2 story, tower, 35x135 ft., rein.-con., brick, plant exten., rein.-con. fdn., to Douglas Bremmer Const., Ltd., 2049 McGill College Ave., Montreal, approx. **$40,000.** C. David, 917 Keefer Bldg., Montreal, archt.

UNCLASSIFIED

PROPOSED WORK

★**†Ariz., Tucson** — WARM-UP APRONS, etc.—U. S. Eng., 751 S. Figueroa St., Los Angeles 14, Calif., warm-up aprons, hangar, temporary frame bldgs., exten. taxiway, reconstructing portion taxiway, paving, etc., at Davis-Monthan Army Airfield. $1,577,500.

Arkansas—SERVICE EXTENSIONS—C & L Rural Electric Coop. Corp., Star City, service extens., Lincoln Co. $250,000.

†Conn., Torrington—AIRFIELD—City of Torrington and Town of Winsted, Mayor's Office, 134 Main St., expan. Carey Airfield. Over $25,000. CAA.

★**†Idaho, Gowen Field (br. Boise)**—HANGARS, etc.—U. S. Eng., 628 Pittock Block, S.W. 10 Ave. and Washington St., Portland, Ore., hangars, warm-up pads, service apron, storage bldgs., converting part of existing warehouse bldg., wash rack, etc., airfield. $1,519,865.

Iowa—SERVICE CONNECTIONS—Ridets Elec. Coop., Inc., Mount Ayr, service connections, Ringgold Co. $75,000.

†La., Camp Polk—WATER SPRINKLER SYSTEM—U. S. Eng., 25 St. and Avenue F, Galveston, Tex., water sprinkler sys.

La., Gueydan—PIPELINES—Amerada Petroleum Corp., Beacon Bldg., Tulsa, Okla., installing, maintaining one each 2, 3 and 4 in. pipelines under and across Snake Bayou at point about 1,150 ft. above its mouth, approx. 12 mi. southwesterly from here, in Cameron Parish.

Minnesota—SERVICE CONNECTIONS, etc. —Beltrami Electric Cooperative, Inc., Bemidji (Minn.-96-Beltrami), service connections in rural electric distr. sys., Beltrami Co. $50,000. REA allot.

Minn., Virginia—AIRPORT—City, J. Harvey, mayor, municipal airport. $100,000. Requested $50,000 from State Aeronautics Dpt. for preliminary work. J. W. Hedja, city engr.

Missouri — SERVICE CONNECTIONS — Howard County Elec. Coop. Assoc., Fayette, service connections, Howard Co. $25,000.

Nebraska — SERVICE EXTENSIONS — Knox County Rural Public Power Dist., Hartington, service extens., Knox Co. $50,000.

Ohio — SERVICE EXTENSIONS — North Western Elec. Coop., Inc., Montpelier, service extens., Williams Co. $25,000.

Oklahoma—PIPELINE—Cities Service Gas Co., SE of City, Oklahoma City, 48 mi. 16 in. pipeline between Shidler and Bartlesville. $375,000. R. T. Wells, c/o owner, engr.

★**Oklahoma**—PIPELINES, etc.—Oklahoma Natural Gas Co., 401 N. Harvey St., Tulsa, made preliminary plans addnl. pipelines to reach Chickasha Gas fields, also compressor stations and gathering lines, $566,000; plans natural gas distr. sys. exten., addns. in Oklahoma City, incl. pipelines services and regulator stations, $531,000; made plans addnl. production installations in gas fields, incl. new wells, new gas well equip., installing new equip. on existing gas wells, in Cement, $345,000.

†Okla., Pryor—FENCING—U. S. Eng., 231 W. Main St., Denison, fencing at prisoner of war camp, Serial No. 41-242-45-71. Over $25,000.

★**Texas and California** — PIPELINE — Southern California Gas Co., Southern Counties Gas Co., Pacific Gas & Electric Corp., 810 S. Flower St., Los Angeles, Calif., 1,000 mi. natural gas pipeline from Panhandle and Hugenot Fields in Texas to Los Angeles, Calif. $60,000,000. CD 3/23—ENR 4/6, under Postwar Projects.

Texas—SERVICE EXTENSIONS—Bandera Elec. Coop., Inc., Bandera, service extens., Bandera Co. $75,000.

Texas—SERVICE EXTENSIONS—Medina Elec. Coop., Inc., Hondo, service extens., Medina Co. $60,000.

Texas — RAILWAY LINE IMPROVEMENTS—Texas-Mexican Ry. Co., R. W. Morrison, pres., Alamo National Bldg., San Antonio, building dumps, widening roadbed, grading, filling on 118 mi. railway line between Laredo and Corpus Christi. $150,000.

†Texas—WATER SPRINKLER SYSTEM—U. S. Eng., Fort Sam Houston, water sprinkler sys. at Brownwood, Bastrop and Killeen. Over $25,000.

†Texas—WATER SPRINKLER SYSTEM—U. S. Eng., Fort Sam Houston, water sprinkler sys. at Brownwood, Bastrop and Killeen. Over $25,000.

Tex., Alice—PIPELINE CARRIER—Sun Pipe Line Co., Nixon Bldg., Corpus Christi, laying 30 mi. 6 and 8 in. crude oil pipeline carrier, $76,000.

Tex., Beaumont—STORAGE TANKS—Magnolia Petroleum Co., Beaumont, reconstructing 3 large steel storage tanks, to store gas for Hi-Octane gasoline and synthetic rubber chemicals. Over $40,000.

Tex., Electra—STORAGE TANKS—Waggoner Refining Co., Electra, reconstructing 8 gasoline steel storage tanks. Over $75,000.

†Tex., Fort Crockett (Sta. Galveston)—WATER SPRINKLER SYSTEM—U. S. Eng., 25 St. and Avenue F, Galveston, water sprinkler sys.

Tex., Stephenville—AIRPORT GRADING, etc.—City, C. W. Bryant, chn. Airport Comn., airport grading, levelling, drainage, etc., $45,000, two 3,000 ft. concrete runways $175,000, shop bldg., fueling sys., etc., $40,000, on 160 acre site, southeast of here. Site purchased. H. C. Doremus, c/o Airport Comn., engr.

Wash., Seattle — AUTOMATIC SPRINKLER SYSTEM, etc.—Chicago, Milwaukee, St. Paul & Pacific R. R. Co., W. H. Penfield, ch. engr., Union Station, Chicago 6, Ill., automatic sprinkler sys. and draft curtains under deck of Milwaukee Ocean dock. $30,000.

Wisconsin — SERVICE EXTENSIONS — Barron County Elec. Coop., Barron, service extens., Barron Co. $65,000.

Wisconsin — SERVICE EXTENSIONS — Oakdale Coop. Elec. Assoc., Oakdale, service extens., Monroe Co. $75,000.

Wisconsin — SERVICE EXTENSIONS — Rock County Electric Coop. Assn., Janesville, service extens., Rock Co. $35,000.

Wyoming — SERVICE EXTENSIONS — Wheatland Rural Elec. Assoc., Wheatland, service extens., Platte Co. $30,000.

N. S., Lunenburg — WHARF — Smith & Rhuland, Ltd., Lunenburg, new wharf. $100,000.

Ont., Almonte—PARK, etc.—Municipality public park and recreational grounds on 98 acre site. $25,000.

Que., Montreal—BROADCASTING STATION—Canadian Broadcasting Comn., 1440 W. Ste. Catherine St., broadcasting station on Mount Royal. $100,000. D. G. McKinstry, c/o owner, archt.

BIDS ASKED

Bids Asked November 14

†Pa., Phila.—LIGHTING FACILITIES—Pub. Bldgs. Admin., 18 and F Sts. N.W., Wash. 25, D. C., addnl. lighting facilities.

Bids Asked November 15

N. Y., Staten Island—PIERS, etc.—Dpt. Hospitals, 125 Worth St., New York, Zone 13, masonry piers and steel beams for supporting service lines in pipe gallery and service tunnel located outside of power house and laundry bldg., Sea View Hospital, Castleton Corners.

Bids Asked

Oklahoma—OIL PIPELINE—Phillips Petroleum Co., E. Reno St., Oklahoma City and Sohio Producing Co., 1st Natl. Bldg., Oklahoma City, laying 21 mi. 8 in. crude oil pipeline carrier, Edmonds Field. **$65,000.** CD 10/24—ENR 10/26.

R. I., Little Compton—BATHHOUSE—K. Clark, Warren Point, reconstructing 135 bathhouses, Warren Point. $25,000 or more. CD 10/4—ENR 10/12.

Texas — RAILWAY LINE—Texas-Mexican Ry. Co., R. W. Morrison, pres., Alamo National Bldg., San Antonio, providing crushed stone roadbed topping and laying 75-lb. steel rails on 118 mi. main railway line between Laredo and Corpus Christi, $375,000.

LOW BIDDERS

†Ariz., Kingman — BURST CONTROL RANGES—U. S. Eng., 751 S. Figueroa St., Los Angeles 14, Calif., burst control ranges, etc., Army Airfield, No. 43, from Kenneth C. Wilson, 136 E. Taylor St., Phoenix, **$88,484.**

★**†D. C., Anacostia**—RUNWAY, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., Zone 25, Oct. 31, runway, taxiway and warm-up apron, for Naval Air Station, from C. J. Langenfelder & Son, 8427 N. Philadelphia Rd., Baltimore, Md., **$1,280,982.** CD 10/25.

CONTRACTS AWARDED

†Calif., Hamilton Field — AIRFIELD BLDG.—U. S. Eng., 74 New Montgomery St., San Francisco, athletic bldg., Spec. 1775-2, to Theo. G. Meyer, 200 Quint St., San Francisco, **$60,087.**

†Calif., Muroc — ELECTRICAL DISTR. SYSTEM—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, reconstructing electrical distr. sys., Contr. W-04-353-eng-1079, to R. A. Watteson Co., North Hollywood, **$85,663.**

†Calif., Santa Maria—HANGAR—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, hangar, etc., Contr. W-04-353-eng-1074, Army Air Field, to J. F. Cummins, Burbank, **$67,000.**

†Del., Georgetown — TREE CLEARING — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., tree clearing, Naval Auxiliary Air Field, NOY 9619, to Wortmann & Sons, Inc., 109 E. 50 St., New York, **$79,380.** CD 10/12.

†D. C., Wash. — FIRE PROTECTION — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., fire protection construction, Wave Quarters D, Nebraska Ave. N.W., NOY 10933, to E. Daniels Co., 2112 N. Quincy St., Arlington, Va., **$46,129.**

★**†Fla., Miami**—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N. W., Wash. 25, D. C., addnl. parking area, sewage treatment plant, gasoline storage tanks, addnl. work to 8-2 mess hall, four BUB barracks, senior officers quarters for Waves officers and nurses, laundry bldg., addns., Master Airman and Naval Air Station, NOY 10446, to Algernon Blair, First National Bank Bldg., Montgomery, Ala., **$704,456.** CD 8/2.

†Fla., Tyndall Field—RANGE FACILITIES—U. S. Eng., Grant St. west of Wynnwood St., Mobile, Ala., addnl. range facilities, incl. outside utilities, Contr. W-01-020-eng-796, to Henderson, Black & Green Co., Troy, **$37,549.**

†Ill., Granite City—HANGAR WALL, etc.—U. S. Eng., Granite City, walls for hangars and 3 offices therein, Granite City Engineering Depot, Contr. W-11-063-eng-2[illegible] to E. A. Brunson Constr. Co., 4052 Forest Park Blvd., St. Louis, Mo., **$41,983.**

†Ill., Rock Island—HARD STANDING AREAS—U. S. Eng., Rock Island, construct[illegible] addnl. hard standing areas Rock Island Ordnance Center, Contr. W-11-117-eng-[illegible] to Ed. Frandsen Excavating Co., 1761 W. 7 St., Davenport, Ia., **$33,410.**

Kan., Hutchinson—HANGAR—City, T. C. Smith, clk., brick, steel hangar bldg. at municipal airport, to Peters & Douglas, 1[illegible] W. 6 St., **$49,814.** Bids 10/19. Crackin[illegible] Heitt, 308 W. 20 St., archts.

†Kan., Hutchinson—AIR STATION BLDG.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., exten. Instrument Bldg. 2, gas storage tanks, Naval Air Station, NOY 10953, to Dondlinger & Son Constr. Co., 401 S. Oliver St., Wichita, **$250,776.**

Me., Rumford Falls — AIRPORT, etc. — Town, J. M. Wyman, mgr., Town Hall, airport **$100,000,** and park improv.**$30,000,** [illegible] labor. CD 9/28—ENR 10/19, under Postwar Projects.

Me., Searsport—RAILROAD SIDING, etc. —Summers Fertilizer Co., Searsport, 1,[illegible] ft. railroad siding and loading platform, excavating, grading, to T. W. Cunningham Co., Inc., 84 Harlow St., Bangor, and Brig[illegible] Constr. Corp., 284 Water St., Augusta. Est. **$25,000.**

Minnesota — DISTRIBUTION LINES — Meeker Cooperative Light & Power Assn., I. Clinton, mgr., Litchfield, 69 mi. distr. lines in rural electric sys., Meeker Co., to Pusel & Determan, Wadena, **$37,996.** Bids 10/[illegible] Banister Engrs. Co., 490 N. Snelling Ave., St. Paul, engrs. CD 8/11—ENR 8/17.

†Neb., Fairmont—AIR BASE BLDG, etc. —U. S. Eng., 1709 Jackson St., Omaha, bldg. and sewage disposal plant, Air Base, to Island Constr. Co., 3867 Leavenworth St., Omaha, **$52,500.**

†N. J., Bayonne—DRYDOCK CAPSTAN —Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., addnl. capstans for Drydocks 5, 6 and 7, to Silent Hoist, Winch & Crane Co., 401-63 St., Brooklyn, N. Y., **$47,470.**

†N. M., Clovis—PARKING APRON—U. S. Eng., Albuquerque, addnl. parking apron, Contr. W-29-005-eng-278, to Western Contr. Corp., 400 Warnock Bldg., Sioux City, Ia., est. **$253,908.** CD 10/10—ENR 10/12.

Okla., Edmond — OIL PIPELINE CARRIER—Sohio Producing Co., 1st Natl. Bank Bldg., Oklahoma City, laying 6¼ mi. 6 in. crude oil pipeline carrier, to Johnson Pipe Line Service Co., Hightower Bldg., Oklahoma City, approx. **$25,000.**

†Tex., Harlingen — GUNNERY RANGE ELECTRIFICATION—U. S. Eng., 25 St. and Avenue F, Galveston, electrification gunnery ranges at Laguna Madre Sub-Base, to 41-243-45-C33, to H. B. Zachry Co., P. O. Box 596, San Antonio, approx. **$25,000.** CD 10/25—ENR 10/26.

Alta., Grande Prairie—AIRPORT SURFACING—Dpt. Transport, Ottawa, Ont., hardsurfacing at airport, to Western Contr. & Lumber Co., Ltd., Edmonton, Alta., **$64,000.**

B. C., Boundary Bay—AIRPORT GRADING—Dpt. Transport, Ottawa, Ont., airport grading, drainage, concrete hardsurfacing, to Dawson Wade & Co. Ltd., 775 Clark Rd., Vancouver, about **$26,000.**

Newfoundland, Buchans (P. O. St. John's)—AERODROME GRADING, etc.—Dpt. Transport, Ottawa, Ont., aerodrome grading, smoothing and rolling, drainage, runway construction, to McNamara Const. Co., 74 Industrial St., Toronto, Ont., about **$60,000.** CD 6/3—ENR 6/10.

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